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Month In View



In a month which sees new Amigas, *AF* readers on the telly, and loads of new games, **Nick Veitch** has trouble containing himself.

Finally, we get a chance to look at a "new" Amiga – the MicroniK Infinitiv Tower. On sale (hopefully) by the time you read this, they will be the first new Amigas launched since the A4000T. They do offer much more than the A1200 (I know they use the same motherboards) because not only can the tower unit house many more drives, but you also get some ever useful Zorro slots. Check out Ben's preview on page 62.

On the other side of the world, things are looking a bit more difficult for the other new Amiga, the Wonder TV A6000 destined for the Far East. Gateway 2000 are disputing the license to use the Amiga technology involved. As ever, our comprehensive news coverage begins on page 8.

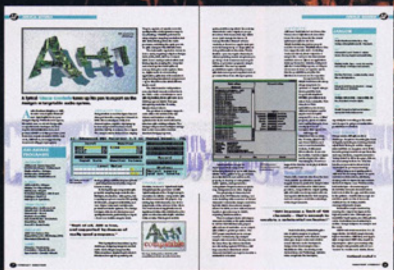
We were also surprised, this month, to receive a call from one of our regular CD contributors, Dale Hemenway. He told us about an Amiga generated project of his that will soon be appearing on broadcast TV! Of course, we immediately rushed up to interview him and fellow animator Victor Georgieve. The result inspired us to create our very own guide to taking over TV. There's bags of useful information there for anyone wanting to get into TV and film work, the software they'll need and some really useful contacts. If you've got the creativity then we've got the know-how.

But, typically, that's not all. We also have an excellent feature on AHI – the Amigas retargetable audio standard – and why you should really register and install it right now. There's a round up of the latest CD-ROM writers, which are getting ever cheaper, three new games, your letters, tutorials, competitions and as usual, much more. All that's left is for me to leave you to get stuck in.

Nick Veitch
Editor



TAKE OVER TV P15
It is possible to produce broadcast quality work on your Amiga...



AHI P24
The much neglected audio side of the Amiga has received an overhaul in the shape of AHI. Find out what it can do for you and why you need it...



GUNSHIP 2000 P42
More classic re-releases and loads of new games in Screenplay this month.



WENDETTA 2175 P40
The old-style shoot-em-up is still going strong and Wendetta 2175 (pronounced with a V!) comes with lots of new and imaginative extras.



MICRONIK TOWER P62
It is the first official "new" Amiga for three years. Does this new tower design have anything to offer? We've taken one apart to get the answers.

AMIGA FORMAT

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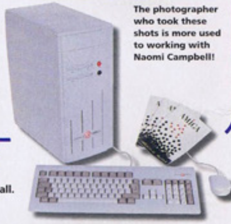
NEWS

REGULARS

CREATIVE

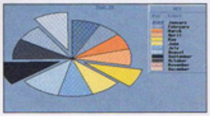


SERIOUSLY AMIGA



The photographer who took these shots is more used to working with Naomi Campbell!



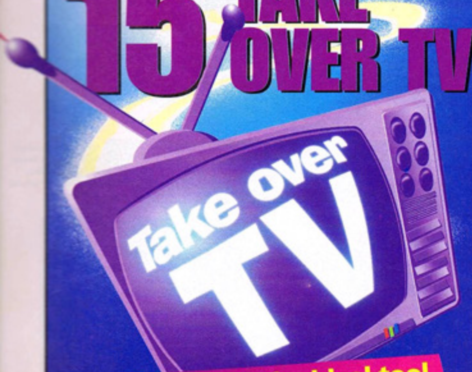




Electronique D2's CD-ROM writer, just one of six we cover this month.

COVER STORY

15 TAKE OVER TV



Your Amiga is the ideal tool for creating video shorts and animations. Discover how it's done and you too can take over TV!





The Prelude should set a new 16-bit standard in Amiga sound.

EMULATORS



COVERDISKS





CD-ROMS



SCREENPLAY



The Strangers AGA



Wendetta 2175



What's up?

Gateway in licensing dispute
Lotus Pacific defend their purchase of Amiga patents

New Amiga operating system
German developers proDAD soon to finish *p.OS*

5th Dimension buy out F1
Leading UK Amiga licenseware companies do deal

Microsoft buy share in rival
For US$150 million Bill Gates has got his teeth into Apple

AMIGA FORMAT news

LOTUS PACIFIC INC.
200 Centennial Ave. Suite 201 Piscataway, NJ 08854

Just who are Lotus Pacific? We'll know more when they answer their phone and email.

Chinese Amigas stopped by GATEWAY2000?

"You've got a friend in the business."®

Those of you who live in the Far East may have heard of a new computer called the Wonder TV A6000. Developed by the Rightiming Electronics Corporation, it is based on Amiga technology licensed when Escom were the owners of the Amiga. It will only be on sale in China and other far eastern territories, and sources say that it is an advanced machine, offering DVD-ROM and fax facilities as just two of its more hi-tech features. This machine has been built, but its creators are working on software to drive it, presumably based around Workbench, and plan to launch it at the start of 1998.

LEGAL WRANGLES

However, it may just be that this piece of kit never sees the light of day in the Far East, let alone Europe because of a conflict with the Amiga's current owners – Gateway 2000. Lotus Pacific, Inc., a partnership of various Asian businessmen used its direct subsidiary Regent Electronics Corporation to buy the patents, licenses, trademarks and copyrights for Commodore-Amiga from Rightiming Electronics Corporation, solely for use in China, Taiwan, Hong Kong, Macao and the bordering countries between China and the former Soviet Union. They paid for it with US$5M and eight million shares of common stock in Regent Electronics Corporation.

"We dispute their license, their right to sell any license and... any claims to Amiga patents..."

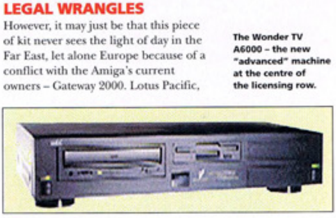
However, Gateway disputes Rightiming's right to sell such assets and refutes Regent Electronics Corporation and Lotus Pacific, Inc's right to such assets. They have issued the following statement:

"As owner of all Amiga, Inc. patent rights worldwide, we at Gateway 2000 want to clarify a recent story on the apparent sale of all Amiga patents, trademarks and copyrights by Rightiming Electronics to Lotus Pacific, Inc. for use in China, Taiwan, Macao and the bordering countries between China and the former Soviet Union."

"Rightiming purports to hold a license to manufacture Amigas and has apparently attempted to sell this purported license to Lotus Pacific. We dispute their license, their right to sell any license, and we dispute any claims they have made with respect to Amiga patents, copyrights, or trademarks. Gateway 2000 owns all Amiga patents, copyrights and trademarks worldwide and will continue to license Amiga technology to qualified companies."

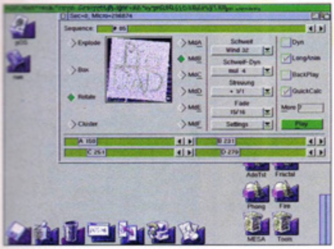
Undeterred, Lotus Pacific announced their co-operative effort with the largest TV manufacturer in China – Sichuan Changhong Electronics Group Corporation of China, to build more than 200,000 units of the Wonder TV A6000 before the end of 1998.

As yet, no-one from either Gateway, Amiga International or Lotus Pacific has been willing to make a statement concerning the future of the Wonder TV A6000, and the reasons why Gateway appears to have been taken by surprise by this move, but rest assured, *Amiga Format* will bring you the truth just as soon as we find it.

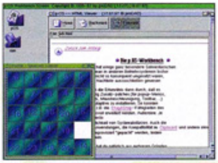


The Wonder TV A6000 – the new "advanced" machine at the centre of the licensing row.

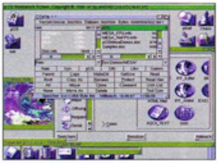
p.OS pre-release put out



p.OS really capitalises on proDAD's strengths – a thorough grounding in video work. Here's the ADO effect tester.



p.OS might look like Workbench on the surface, but it's much smoother.



It also comes with a built-in file manager that's a bit like *Opus 4*.



And the obligatory game of *Tetris*...

Since it was first announced, the prospect of a new operating system for the Amiga has attracted interest from around the world. p.OS has been written by German company proDAD, better known for its video utilities *ADOrage* and *clariSSA*, who have been working hard on it for the last two years.

The pre-release is a nearly complete operating system at a reduced introductory price, which can be upgraded to the final release for no more than the difference in retail price.

For the price of £19.95 you'll get the p.OS pre-release on CD-ROM or on floppy disk. As a special introductory bonus ProDAD are also offering some additional demos and tools, which demonstrate the abilities of this operating system, for free. There's an online tutor to introduce you to all the technical innovations and this pre-release (CD-ROM version) also includes:

Complete *p.OS* workbench – powerful and flexible workbench
Easy to use *p.OS* filer – a powerful program for organising your files and drives
Demos
Various WB games
Fractal demos
Creation of animations with effects
Picture viewers for different formats e.g. IFF, JPG, GIF, PNG, etc.
PhotoDirectory
Text viewer
Guide viewer (compatible to AmigaGuide)
HTML viewer
UNIX emulation

p.OS pre-release is available for £19.95 from Weird Science in the UK. You can ring them on 0116 246 3800 or visit their website at http://www.weirdscience.co.uk for further details.

SWAUG

SWAUG, (South West Amiga Users Group) consists of a few hardened individuals, dedicated to providing help, advice and Amiga software through channels outside the High Street. Based in Torquay, they use anything from A500s to A1200s and supply a list of their own second-user systems and software in an attempt to combat high prices in the shops. You can contact Dom Johnson or Mark Stockman on 01803 551214, or page them on either 01523 434779 or 01523 108238. If you want to write, the address is SWAUG, 4 The Hall, Eastern Road, Ashburton, Newton Abbot, TQ13 7AP.



With over 4000 colours on screen, it should look good.

OLOFIGHT LOOMS

The Real Ologram is a new Italian team developing a beat-em-up called *Olofight* for AGA Amigas. Some innovative features of the game promised by the team include:

- more than 4900 colours on screen at once, made possible on an Amiga 1200 by a new routine that exploits the Copper to the limit
- power-ups to strengthen fighters by adding new moves (special moves will be easier to control than those of similar games)
- objects moving on different parallax layers, behind or in front of fighters
- animated backgrounds
- 3D-perspective floor motion
- background music adapting itself to the game events: it gets quiet and gloomy if the player is losing or triumphant if the player is winning
- high quality (100% rendered) graphics
- support for at least four languages (Italian, English, French, German) for both the manual and the game
- realistic shadow effect reflecting fighters' movements: not just a dark spot on the floor, but a semi-transparent outline shaped like the character
- work is in progress to add a daylight or darkness effect – all looks good on paper!

The developers plan to include an introduction similar to those of PlayStation games like *Soul Blade* and they hope that the game will run with no problems, at 25fps, on a basic A1200.

The game will be distributed on floppy disks initially (probably eight or more) with a HD installation program. A playable demo should be with us for preview in September. The Real Ologram hope the final product will be ready in time for Christmas. For more information, you can email them at: ologram@agarde.it



DIGITAL EDITING

The BJC-4200 Photo Editing Studio gives you the chance to alter photographs without going near chemicals or a dark room. If you buy Canon's BJC-4200 printer, you'll also get a roll of 35mm film, *PhotoSuite* photo editing software, a PhotoRealism print cartridge, high resolution paper and a voucher for reduced development costs. Just send off your camera film to Kodak (with the money-off voucher provided) and in addition to your normal prints, you'll get back a CD-ROM with all your photos stored on it in digital format. While the *PhotoSuite* software is for the PC, you can alter the colour, background and size of your pictures on your Amiga using a paint package that supports the PhotoCD standard. For more info call 0121 680 8062 or visit the website at http://www.canon.co.uk

CD REPAIR

Ever lent a CD to someone and wished you hadn't? Help is at hand with the new "Disk Rescue" kit from Atlas. It uses a special cloth to smooth away all but the deepest scratches. The kit is available direct from the importers for £12. Phone 01243 533886 or email Sales@ATiAtlas.demon.co.uk for more details.

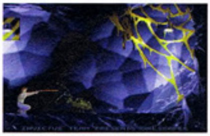
ERROR

Last month we incorrectly printed Evolution Design's phone number. Erm, they don't actually have one. If you'd like to get hold of a copy of *Pro Tour '97* (*AF101*, 35%) just send a cheque for £12.99 made out to Paul Phelps, Waverlee House, Woodend Road, Harrow Hill, Drybrook, Gloucester GL17 9LA.

Reasons to be cheerful



Pop quiz junior. You're just about to be frazzled by a flying craft. What do you do? WHAT DO YOU DO?



The cavern level of *OnEscapee* is as creepy as it is atmospheric.

Sadeness Software have some news for us about up-and-coming god game *Foundation* and their new acquisition: *OnEscapee*. *Foundation* and *OnEscapee* are coming along nicely, so much so that Sadeness feel confident in taking pre-orders for both. *OnEscapee* should be finished by October and *Foundation* in time for Christmas. They promise that they will not cash your cheque (or debit your card) until they send your order out to you on day of release. Both games will cost £29.95 + £1 p+p.

You'll need a fairly decent machine to run *Foundation* now – since Paul Burkey got a new development machine, the spec for the game has risen somewhat and a graphics card is now recommended in addition to the now obligatory CD-ROM drive. Sadeness are still looking for faces to add to the game – you can find the details on this at their website.

Their other new title – *OnEscapee* is from Hungarian newcomers Invictus Team and is already looking stonking. Imagine a version of *Flashback* where the central character is at least twice as high and with much more detail – then imagine that he can do a whole load more stuff like swimming, climbing and all sorts of acrobatics. Put him in a game that's vastly more varied with loads of great death scenes and you've got some idea of what it looks like. We hope to have a demo of this and *Foundation* on our CD for next month and Paul Burkey will be talking us through the development of *Foundation* in our new 'Work In Progress' feature.

For more details why not give Sadeness a ring on 01263 722169 or visit their website at: http://www.sadeness.demon.co.uk.

Power Computing

Power Computing Ltd. is now an official distributor of the A1200 and the sole licensee in the UK for the production of the 3.1 Kickstart ROMS for all Amigas. The 3.1 OS pack for the A500 /A1500/A2000 will now cost just £39.95 and the same pack for the A1200/A3000/A4000 goes for £44.95.

Power Computing's license also allows them to sell the ROM chips on their own for a lower price. For further details contact Power Computing on 01234 851500 or visit their website at http://www.powerc.demon.co.uk.

Net Corner

i 97 TARGETS BUSINESS

The theme of the third annual Internet Show (i 97), to be held at the N.E.C in Birmingham this year, will be 'practical business solutions'. Recent research shows that 85 per cent of British businesses do not have an Internet connection, and i 97 organisers believe this is because people do not fully understand the benefits. The aim of the conference is to demonstrate to IT and marketing managers the commercial power of the Net, with focus on the use of Intranet in an office environment, electronic commerce, web design and applications, 'remote and mobile communications' and the use of the Net to conduct research and market analysis. The show will take place between September 23rd-25th. For further information call Louise Colvin or Catherine Hockey on 01225 444601.



Frightened by the prospect of the BT bill hitting the mat? Cerbernet could help.

SURF ON

Service Provider Cerbernet is offering Net users permanent, unlimited Internet access for a standard annual charge, with no worry of a mammoth phone bill. The company's new 'Direct 33' connection package offers a 64k leased line service, without direct call charges, aimed mainly at business users who are utilising the Net throughout their company, and want email/Web access for everybody 24 hours a day.

Prices start at £300 + VAT for installation and a fixed annual charge of £1600 + VAT, (regardless of calls made). For more information, call 0171 360 8000, email sales@cerbernet.co.uk or visit the website at http://www.cerbernet.co.uk

PRICE SLASH

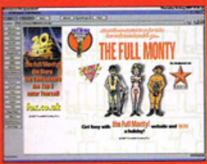
If you're after a modem that won't bruise your wallet, it's worth checking out Eurotech's range of Premier MT models, which have just been reduced in price. You can kit yourself out with the MT336SVE modem for £79.95, with a 56k version at £99.95. For further information phone EuroTech Marketing Services on 0118 981 0011 or fax them on 0118 981 0110.

GTI CHARTS JULY '97

GTI, the world's largest supplier of Amiga CD-ROMs has two *AF* CD-ROMs in its top 10 chart. Aminet CDs dominate but it's interesting to see *Directory Opus Magellan* creeping back up again.



1	(-)	Aminet Set 5
2	(1)	Aminet 19
3	(6)	Aminet Set 4
4	(-)	Amiga Format CD 16
5	(3)	Aminet 18
6	(5)	Geek Gadgets 2
7	(4)	Amiga Format CD 15
8	(11)	Meeting Pearls 4
9	(27)	Directory Opus 5 Magellan
10	(10)	APC & TCP CD Vol. 3
11	(8)	Tele-Info Vol. 2
12	(2)	Amiga CD 7-8/97
13	(13)	Aminet Set 1
14	(14)	Amiga Developer CD
15	(9)	Aminet 17
16	(16)	Aminet Set 2
17	(17)	Aminet Set 3
18	(-)	Hidden Truth
19	(44)	Eric Schwartz CD
20	(-)	Megahits 6

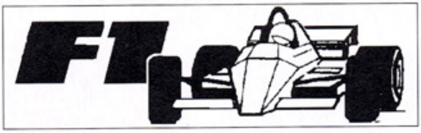


Yes, it looks like lots of naked people cunningly covering their private parts!

THE FULL MONTY

Twentieth Century Fox is following up its new film The Full Monty (out now) with a web site. The appeal of the story rests on nude Brit humour, with Robert Carlyle, (Trainspotting's Begby), and friends trying to drum up cash by stripping in clubs up and down the country. Video clips, stills and audio clips can be found at: http://www.fullmonty.co.uk where you can also enter a competition to find the funniest nude picture. Dig out your stag night photos...

F1 GO TO A NEW DIMENSION



Five weeks of discussions and negotiations between the two leading UK Amiga licenseware companies 5th Dimension and F1 have culminated in the buyout of F1 by Phil Wilkinson of 5th Dimension.

From the 1st August 1997 F1 Licenseware will be officially taken over by 5DSoftware. The new company will be named F1 Software and based in Goldthorpe, South Yorkshire, the home of 5th Dimension. The exclusive Amiga ranges produced by each company will be kept separate for the moment, but it means that the F1 Software range will total over 200 programs including classics like the *BlackDawn* series, *Relics of Deldroneye*, *Hilt II*, and *Disk Mag Creator*. The Amos Compiler will still be available, as well as many new projects still in development.

Phil Wilkinson of 5th Dimension says: "At F1 Software we support the Amiga 100% and will continue to do so. Our American distributor is receiving a lot of customer interest, proving that the Amiga still has a good user base in the States... we know the F1 range well and are determined to build on the company's past success."

"I feel that a whole new chapter in the Amiga's story is just beginning, the future has not looked this bright in over two years and I plan to put F1 Software firmly on the map and keep it there."

You can contact F1 or 5th Dimension at: 1 Lower Mill Close, Goldthorpe, Rotherham, South Yorkshire, S63 9BY. Tel or fax 01709 888127 or visit their website at http://www.ware5d.demon.co.uk

Amiga Networking

Golden Image has produced a new networking tool for the Amiga in the shape of Connexion – an Ethernet adaptor that can connect any Amiga equipped with at least ZorroII slots to a standard Ethernet network, enabling the user to access files and resources stored on other computers. The Connexion card auto boots via the internal Netzwerk ROM, removing the need for additional drivers and is also compatible with the A2065 units, with an external switch to change between A2065 and Connexion modes. It is also compatible with all networks that use the SANA II device protocol. Connexion is available now direct from Golden Image UK Ltd, for £175. For further details phone them on 0181 900 9291.



A new networking card, but is it too expensive?

VULCAN EXPANDS

Vulcan Software have expanded their field of operations to include the North American continent. Owing to demand for their games – and the difficulty some Americans had in obtaining them, the new office in Ohio should act as a much simpler starting point for Americans and Canadians eager to have their first taste of *Valhalla* or *The Strangers*. For further details for our US readers, contact Vulcan Software America on 1-800-426-7687 or visit the Vulcan website at http://www.vulcan.co.uk.

THE MISSING FILE

The last untold chapter of the X-files is to emerge from the murky depths of the Twentieth Century Fox archives. Until now, Mulder and Scully's jaunts into the realms of aliens, spirits and Mexican goatsuckers have lacked one vital missing link – File 4: Colony. Nicknamed 'the missing file,' (since 5 and 6 have already been released on video) and dubbed "the most sinister and gripping X-file to date", this limited period video release will reveal vital details and clues about Mulder's sister, abducted by aliens in childhood. 'Colony' will be in the shops on September 8th, retailing at £14.99.

SWANKY PRINTER

Epson have launched a new inkjet printer, for "cost conscious" customers. The Stylus Colour 300 model is a photoreal printer which uses Epson's Perfect Picture Imaging System, quick-drying inks and AcuPhoto Halftoning technology. It costs £159. Contact Stephanie Kinkade or Jason Bolton on 01442 61144.

Microsoft take bite out of Apple



Bill Gates: Devil incarnate or just a megalomaniac?

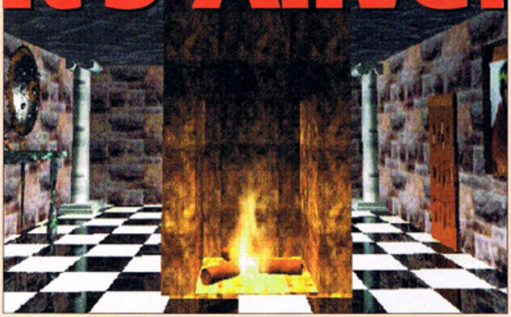
The big news at the Boston Mac Expo in the second week of August this year was that MicroSoft were going to have a stake in the company. Apparently Mac enthusiasts – who are almost as rabid as Amigans – booed their one-time hero Steve Jobs as he announced the deal on the stage, just before Bill Gates appeared, Big Brother-like, on a huge video screen behind him. Microsoft have actually given Apple $150M in return for a few things:

- a 7 per cent non-voting share of Apple
- cross-licensing and the sharing of new developments for a number of years
- Apple will include *Internet Explorer 4*, Microsoft's browser, with future revisions of Apple's System software (the Mac version of Workbench)
- Dropping all lawsuits currently engaged in between the two companies (including the look and feel suit brought by Apple when Microsoft first unveiled *Windows95*)

Microsoft meanwhile has promised to up the amount of Mac development they do, promising new versions of their most popular products including *Microsoft Office* and others. This influx of cash means a great deal to Apple, Inc which is in almost as bad a position as Commodore was four years ago, but what will it mean to Amiga users who might not otherwise care what the Redmond giant is up to? In the short term, probably little, but it's interesting that Microsoft is shoring up one of their largest competitors to stop any monopoly in the computer market on their part.

The truth of the matter is that without Apple (or indeed the Bebox), Microsoft stands a very good chance of being split up, much like America's monolithic phone system was back in the 1950s, because America is against monopolists in much the same way that the British government is meant to be. It also means that far from feeling threatened by the Amiga (as if), Microsoft is very pleased that it exists. It proves they don't have a monopoly. For this to be a valid point, Microsoft will have to also shore up Ted Waitt's new baby, since the number of Amigas worldwide has declined so much. Still, it gives us all here at *AF* a chuckle.

It's Alive!



You've probably seen these pictures before when we previewed *Haunted* some time ago...



...but hopefully we'll get to actually review it in the next month or two.

Games companies seem to be crawling out of the woodwork these days and Alive Mediasoft Ltd. are no exception. However, with the exception of their first game, Alive intend to be a little different from your average bunch of coders desperately coding in a back room somewhere. Their first game will be *Haunted* – a massive CD-ROM based graphic adventure. You may have heard of it before; it was previewed in *Amiga Format* a while back, but Alive Mediasoft are really concentrating on getting a Halloween release out on October 31st this year!

Their other forthcoming games are, perhaps, of more interest. Alive are promising versions of *Doom*, *Phantasmagoria* and more, courtesy of a little trick they have. Rather than porting the software across and having to deal with recoding for the graphics and sound they are intending to use a stub emulator to give the Amiga just enough of the Mac to enable you to run the Mac versions of these games and many others without having to learn how to use a Mac. If they can do this it will open up a whole new range of titles for games-hungry Amiga fans, but the technicalities are going to be somewhat tricky, particularly the issue of the ROM code needed for Mac emulation. The Macintosh has a ROM much like the Amiga's kickstart and like Kickstart it is copyrighted heavily by Apple. Whether Alive can work out some sort of licensing deal with Apple is another matter, but whatever happens it will probably drive up the cost of the games. We await further announcements eagerly. If you'd like to contact Alive Mediasoft with regard to this or *Haunted*, you can get in touch with them on 01992 718990.

So you have an idea and you want to get into TV?...



...Owning an Amiga is almost like having a friend in the business. In fact, as Nick Veitch discovers on the following pages, it is very much in the TV business...

The Amiga's chipset was originally designed to be the engine for a great games machine. As such it was very much based around the standard display of the time, the TV. This had the rather useful side-effect of putting the Amiga leaps and bounds ahead of other computers when it comes to things like multimedia and particularly television.

The output from the Amigas graphics port is almost a standard TV signal. It is the same shape, height and operates on the same scan rate as a standard TV picture. This is the reason that you can literally plug the Amiga into the back of a TV set and get a picture, something which is certainly not possible with your average PC and Mac.

Obviously this makes it ideal for all sorts of uses, from presentation work and information systems, to titling animation and real broadcast TV work. Everything that you see on your screen can be recorded directly onto tape.

Cunningly, the Amiga also allows its output to be driven by an external syncing unit. This may not suggest much to you, but it means that the Amiga is "video ready" in terms of using genlocks and timebase correctors – allowing Amiga graphics to be effortlessly overlaid on live video footage (or even the video output of another Amiga).

All this means that the Amiga provides virtually everything you need to create your own video short, animation or TV masterpiece. Similar professional systems cost tens of thousands of pounds but the Amiga is a one-stop solution – all you need to supply are the ideas.

Over the next five pages we will be concentrating particularly on TV work, and thanks to professional animators Dale Hemenway (whose work has already appeared on our CDs) and Victor Georgieve (who is Bulgarian) we'll be having an in-depth look at how to create animations for TV. Onwards...

Babylon 5 may be the most famous Amiga generated show on TV, but it isn't the only one, as you are about to find out.

Continued overleaf ➡

HOW TO CREATE AN ANIMATED SHORT IN TWELVE EASY STEPS.

1 WRITE THE SCRIPT
It sounds easy enough, and really, with an animated feature, this may well be the easiest part in terms of hard work. You should include plenty of detail in the script, and perhaps produce a storyboard at the same time.

2 RE-WRITE THE SCRIPT
If you are aiming for a particular duration, time yourself reading through the script (obviously making allowances for action sequences etc.) several times. This should give you an idea of length. It's easier to adjust the script now rather than edit stuff out later.

3 RECORD THE DIALOGUE
Your actors (or yourself) should record the dialogue. If this is a low budget epic, a good quality tape deck will do. If everything is going to be produced on the Amiga, you should consider sampling directly (which will save some of the audio quality) using the best sampler you can afford, as this can save time and money later.

4 EDIT THE SOUNDTRACK
If the soundtrack over-runs you have two choices – redo it or edit it to the right length. If you have sampled the soundtrack this could be quite easy – you just need to use the software that comes with the sampler.

5 MARK SOUND TIMINGS
The Hemenway way, and therefore the "proper way", is to transfer your audio onto filmstock magnetic tape. The frames are thus easily deduced, as they are marked on the film. This does mean obtaining some extra equipment, which may not be strictly necessary if your audio track is a sample. A simple bit of maths will tell you that each frame (at 25 frames per second) is .04 seconds. Most sampling software will show you a timeline.


Phonemes marked on standard 16mm tape. This makes it easy to determine which frames go where.

6 PRODUCE A SCENE LIST/ STORY BOARD
Now that you have achieved the previous step, you can produce a detailed sheet for when sounds/voices occur and on what frames. For speech, note the words phonetically. There are a certain number of standard mouth positions for different phonemes, so having the list will be jolly helpful.


Storyboards can be useful, but a list of scenes is essential.



So, you really want to make movies then? Well, the most important thing when creating your masterpiece is planning. I know it's boring. I know that El Mariachi was shot almost entirely from the hip with no storyboards and yet turned out great. I know that you will probably ignore any advice anyone gives you that you don't like (something you have in common with most directors), but planning can really save you a lot of time and effort.

If you are creating anything other than a fly-on-the-wall documentary, it might be a good idea to start off with a script – it really isn't easier to make it up as you go along. It is also at this stage that you can spot certain problems. If your script calls for a twenty minute car-chase through the centre of town, you probably won't be able to finance the film with your pocket money. By familiarising yourself with the equipment you have, you can work out what is technically possible before you start.

Also, if you are doing a video-based script, you will be able to determine which scenes are based in a particular location and need particular equipment or actors. There is no reason why the film should actually be shot in sequence, so these scenes can all be shot at the same time.

There are plenty of books for the budding film-maker, which go into all the details of continuity, storyboards, financing, post-production, promotion

ACCESSORIES AND ADD-ONS TO CONSIDER

There are many bits of hardware and software which will either make things possible, or at the least much easier for you. This list is just a brief guide to some of the peripherals and programs which may come in handy – it is by no means comprehensive (such a thing would take up half the magazine).

GVP G-LOCK



The G-Lock was probably the most versatile genlock the Amiga ever had. It wasn't the S-VHS capability, or even the abundance of inputs and output (which actually made it a bit messy), but the fact that the fader could be completely driven by software, allowing for timed, programmable fades.

ROCGEN

Very popular genlock, no longer manufactured but widely available second hand. Be warned though, early versions will not work with the A1200.

Jason Holborn is a weatherman, thanks to the RocKey and RocGen.



ROCKEY

This is a Chromakey unit that compliments the above Genlock (although it is possible to use it with any genlock). A cunning device that was inexpensive and worked very well – you too can be a weatherman by standing in front of a blue screen.



G2 SYSTEMS

Purveyor of a wide range of genlocks for all levels. All the models we have ever reviewed have performed admirably. Give G2 a call for current availability and prices on 01252 737151.

LOLA GENLOCKS

Good quality output, solid case, quality connectors and nice buttons. What more could you want? A1200 compliant and available in composite and YC versions. Available from Chroma on 01328 862693.

HOW TO CREATE AN ANIMATED SHORT IN TWELVE EASY STEPS

7 MAKE LINE TEST DRAWINGS/FRAMES

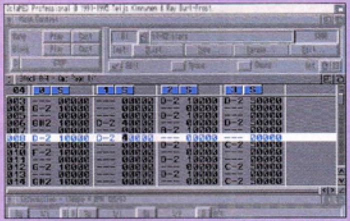
At last, you are doing some actual drawing. The line tests should be just that, outline drawings for every frame, showing the movements of characters. This is usually done by drawing the key frames first and then "tweening" the others – generating the frames in between (see technique boxout).

8 COMBINE LINE TEST AND SOUND TRACK

This could be done on video tape, but the whole point of having the Amiga is to use it. With a package such as the excellent *AnimatED*, you can combine your audio sample with the animation and play it back to check that the motion is smooth and the soundtrack matches up. Remember to play the animation and the sound back at the same speed!

9 MAKE FINAL DRAWINGS FROM LINE TEST

Once you are happy with the line test, you can then go back to render/draw each frame properly. If they are drawings they then have to be digitised precisely and built together into an anim. For stuff that you are rendering or drawing in a paint package, this is a bit easier.



OctaMED is a very useful tool, because it allows you to time precisely where particular effects will be heard.

10 COMBINE AUDIO AND VIDEO

All your scenes should now be ready for combination. If you are working entirely on the Amiga, then you can probably get away with combining this step with the last two, joining all your scenes together (removing the need for editing) and recording them to tape in one burst.

11 RECORD TO TAPE

The penultimate stage is recording your work to tape. If it is going to be edited further, it is best to get the best quality output you can – at least try and record it on an S-VHS deck, as the quality of the sound and audio will diminish horribly with each successive recording generation. Unless you have decent equipment, it's best to go the all-in-one route described above.



Clear your throat and adopt your best speaking voice.

12 EDITING

The purpose of the edit is really to assemble the scenes and sequences into one continuous film. Depending on the equipment you have you may also want to add in visual effects at this stage, such as fades and wipes between scenes (although of course, you could do these completely on the Amiga too!).

and so on. Some of them are listed in the "further info" box at the end of this feature, and many more can be found in any largish bookshop. For the rest of this feature we will concentrate on the Amiga specific information you might find useful...

STARTING OUT SMALL

There is no need to buy any extra equipment to get started. In fact you probably don't need any additional software either – almost every Amiga was bundled with a paint package.

This is more than capable of some excellent results, especially for animation, or titles/credits sequences. Usually everybody's first experience of "desktop video" is recording an intro sequence from their computer as a lead-in for a tape of Star Trek episodes or something. Because the Amiga is video-ready (ie, has a direct composite output which can be plugged into the back of most video recorders) you can simply record the animation directly onto tape without a problem.





Eric Schwartz's 'Amy the Squirrel' cartoons should give you some idea of what's possible if you have some talent.

If you want to be able to animate at a full 25 frames per second (fps), then you may need to be aware of some restrictions. For a start, you will not be able to get a standard A1200 to display full frame HAM8 images at 25fps. In fact, unless your image area is small, you are unlikely to get 256-colour animations running at that speed (but see boxout "In Real Time"). Dropping

Continued overleaf ➡

MINIGEN

Very cheap and very poor quality compared with today's hardware. No longer manufactured, the MiniGEN was popular, but of no real use for decent quality video work. Avoid at all costs.



The old MiniGEN is cheap, but then so is the quality, and it doesn't get on well with the A1200.

PROGRAB 24

Excellent 24-bit grabber, available in Parallel or PCMCIA versions. Grabs good quality full overscan, 24-bit frames. All versions have received Gold awards, and this hardware is probably the best buy available on the market at the moment. Contact Gordon Harwoods on 01773 863781.

VIDEOMASTER

Although this unit is cheap and capable of delivering realtime animation from a standard Amiga, the limitations make it unsuitable for longer feature work. The main problem is that playback and recording must be done to/from chip RAM, which severely limits the length of any sequence you could produce.



VIDI

A venerable digitiser, which started life on the Amstrad CPC. The quality is good, but development has stood still for the last few years.

V-LAB

Macro Systems' excellent digitiser – easily the best on the Amiga, either in parallel or Zorro versions. IFR software allowed complete capture of video footage without resorting to a VCR deck with a good pause facility. No longer manufactured, but occasionally available second hand...



The V-Lab family are the best digitisers to ever grace the Amiga. All support composite and YC inputs.

IN REAL TIME

It is possible to record realistic graphics direct from your Amiga at full motion speed. On the Amiga side of things you can equip yourself with a V-Lab Motion ZorroIII card or similar. This can play back JPEG frames in real-time, so once again, you can simply record directly from the V-Lab. Another popular Amiga solution is the Personal Animation Recorder card, which doesn't use JPEG compression, but two dedicated hard drives.

A potentially more expensive solution is to get a video recorder capable of recording single frames. These do tend to be more expensive than your Amiga, though they are also useful for lots of other things, like stop-motion animation.

With simple audio, once you have recorded your visual sequence, you can just dub the sound on to the audio track of the VCR. Be careful though – although most VCRs will allow you to dub over the sound of existing video, this is impossible with things recorded in Nicam stereo. Because the two audio tracks that make up the stereo sound track have to be encoded into the visual data to be recorded on the tape, once recorded, it is impossible to change the stereo sound track – you have to record stereo sound at the same time as video.

Nicam VCR decks still allow you to record an ordinary linear sound track though. Unless you have some fancy deck, this linear track usually contains both the left and right stereo channels but these can be dubbed over at a later date. Although the "proper" way is to finalise the audio track, in the case of titles etc, where the sound isn't necessarily connected to particular frames of the animated sequence, it is often faster and easier to do things this way around.

Of course, using software like *AnimatED*, you can lay down the video and audio simultaneously, saving you finding your VCR manual to discover where the "Audio dub" button is.

the speed isn't really so much of a problem. Animating at 12fps is almost as good to the untrained eye and saves you a lot of extra effort. Experiment with different animation formats too. There are various Shareware programs you should try to see what speeds you will be capable of. *MainActor* and *AnimatED* (which we gave away with issue 101) are well worth playing with.

ADDING SOUND

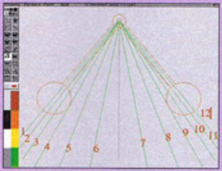
Your soundtrack may just be some music, or it could include effects and speech relating to the action. If you are recording live video with a camcorder, you will usually be recording sound too. Sound effects can be added afterwards, but you will need some sort of audio mixer. It is vital to preserve some way of linking the audio and soundtrack together, which is why clapperboards were invented – the sound occurs at a defined moment on the tape. Don't think that you can get away with dubbing in actual speech later – without very complicated equipment, you'll never get the speech and the images on screen to match convincingly. Effects and music can easily be constructed in a sequencer like *OctaMED* – this provides you with a very accurate way of playing the effect at a specific time, or you could use *AnimatED* to trigger your sound events.

TECHNIQUE – TWEENING

Tweening is not so much a cunning technique, more a piece of common sense. Animations are generally created by first drawing the "key" frames, usually where some important action takes place, or some motion starts or stops (but don't leave too many spaces in between key frames). Tweening then, is creating the frames in between, by calculating the positions within the two given points.

This can be worked out mathematically, and it is usually an idea to take a ruler to things initially. Motion is tricky though, because things very rarely move with constant velocity, but speed up and slow down. The example shown here is a pendulum. Near the top of its arc, the pendulum slows down, comes to a halt and then goes back again, picking up speed until it reaches the lowest point, then slows down. The distance between the pendulum on successive frames is, therefore, ever changing. A general sketch of all the positions is handy, and if you are using *DPaint* or *PPaint*, you can keep this on the spare page and flick back and forward (or use *Dpaint's* Light Table feature).

Also, through cunning use of brushes and the Brush>flip feature, note that you only have to actually draw six frames for a complete "tick – tock" sequence.



The numbers and lines are a guide to the positions of the pendulum in particular frames.



The Amiga is widely used across the animation industry for line-testing.

BEING MORE ADVENTUROUS

You don't need any more hardware, even if you are going to do a proper animated short. In this case I would strongly recommend that you study the step-by-step guide to be found on these very pages. The advantages of a completely animated feature (and this can include ones involving digitised live action sequences), is that it costs very little to produce. You don't need all sorts of video add-ons, just a lot of time on your hands.

If you are interested in live action, there are a few extra pieces of hardware that should be on your list from day one. A genlock is a device which attaches to your Amiga, allowing computer graphics to be overlaid on a video signal. Although most people simply use a genlock for overlaying subtitles, it is very versatile.

V-LAB MOTION

The big brother of the aforementioned, this ZorroIII card incorporated real-time full frame video capture and playback, using a cunning frame-by-frame dedicated JPEG compression chip. Also, sadly, no longer manufactured.

VIDEO DIRECTOR

Gold Disk's excellent assemble editing package enables you to take the pain out of assembling video footage from camcorder onto another video deck. Again, Gold Disk no longer manufacture this, but this package does still pop up in second-hand adverts and occasional Amiga shows.

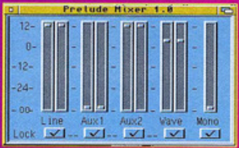


Video Director is excellent for hassle free editing.

PRELUDE

Full CD quality sound in and out, with accompanying software. And it's new and available! Call Albrecht Computer Technic on (00) 49 4773 8910 73.

The Prelude supports AHI, check out the feature on p24!



AURA

HiSoft's 12-bit PCMCIA based sampler is great for direct-to-disk recording. Once you have the samples into the Amiga you are limited to the Paula chips playback capability (but again, check out the AHI feature which follows this).

OCTAMED SOUNDSTUDIO

For multitrack audio, this has to be on your list. Not only can you mix and play more than four tracks and control Midi instruments, but when your composition is finished, you can save it out as a CD quality 16-bit AIFF file for playback through a sound card or cutting to CD.





If you have ever watched the BBC's nine o'clock news, you will probably have deduced that the set isn't real and that the computer graphics and the presenter are mixed together. What you probably didn't realise was that this effect is created not with a weather-man style CSO or chromakey effect, but is actually done with a genlock (and some clever camerawork) – if Nicholas Witchell moves a few inches to the left he'll just disappear.





Bab 5 model designer Ron Thornton had the idea of remaking Thunderbirds as a CGI animation – sadly it didn't get far.

A chromakey unit is certainly very useful for various effects, like appearing against a backdrop of exotic locations, but this can also be achieved simply by digitising both sequences and composing them in *ImageFX* or *AdPro*. It might mean extra work, but you'll be amazed at the professional looking effects that can be generated with the minimum of equipment.

THE CASE STUDY

The interview and step-by step guide presented in this feature are based on the experiences of two professional

Continued overleaf ➡

AN INTERVIEW WITH DALE HEMENWAY & VICTOR GEORGIEVE

How did you two meet?

We were both working for Gavin Prime on a puppet animated feature. We built loads of complicated sets and puppets.

What happened to that?

Dale: It's an ongoing project that Gavin has had in mind for several years. Hopefully, once 'All Talk' [Central TV project] is completed, we shall be able to return and see the puppet animated feature to its conclusion. A lot of my time is also taken up with teaching animation in various schools and media centres.

When you are teaching stuff – is it animation, or computer animation?

Dale: Traditional animation techniques. I assist the kids in making Plasticene® characters which they then animate in a short story they have devised. I haven't used the Amiga in schools very often as I have a video camera with animation facilities.

So how did you get into using an Amiga then?

Dale: Originally, I got it to use as a line-tester, because I'd seen the Chroma adverts, and Gavin bought one. I read a couple of his *Amiga Format* mags and I thought "this looks good, a few hundred quid for a computer that can line test". I already had a video camera, so I just needed a digitiser.

I couldn't understand most of the ads – I didn't know what an accelerator was. But I bought the Amiga and the digitiser, and the more I bought the magazine, the more I realised that you could do other things as well.

Do you think that's a problem with the perception of computers in industries like yours, that people see them as a tool for performing a particular task, and don't realise how useful they can be for all sorts of other things?

Dale: I taught animation at the Lighthouse Media Centre in Wolverhampton, and there were two people on the course there who once owned Amigas and had sold them. They never knew you could do animation with them, when I took mine in and showed them some stuff I had done they were amazed. They had *DPaint*, but even then hadn't realised you could do animation.

Nowadays it is probably reasonably well known to video makers, with coverage in magazines like *Camcorder User*...

But you would have to buy the [Amiga] magazines to know that you could still buy them. You don't see them in Tandy's anymore. It makes it hard to recommend an Amiga, especially when everyone says you need an IBM compatible.

What would it take for you to have the confidence to recommend the Amiga again?

Dale: That's a difficult question. I would say that, more than anything, we need more software development for the Amiga. Of course, we also muct have new Amiga models and this appears to be happening. But if someone wanted a machine for animation I would still say buy an Amiga.



Do you find the Shareware scene is a help to you at all?

Dale: Yes, definitely. Some of the programs I use are Shareware. Things like Marco Vigelius's *AnimatED*. There is some great stuff out there, that people have taken the trouble to create. I know Marco has spent about six or seven months on his program.

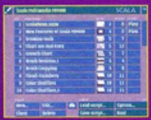
I wonder how many registrations he has had.

Dale: He did tell me. About twelve I think. Which isn't a lot. The problem is that if you make a program that is

Continued overleaf ➡

SCALA

The original 'Amiga at the movies' software. The original version was on the *AFCD* in May (*AF97*), which is still available from our back issue department if you missed it. Later versions of Scala (MM400) are still available from various sources, including Chroma on 01328 862693.



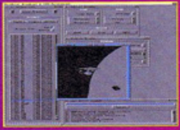
ANIMATED

Marco Vigelius' excellent software (a former *AFCD* reader contribution winner) is a mini animation production house. Load in your IFF anim and add music, sound effects, change the frame rate or add a pause for a specific frame. The latest version of AnimatED was on the CD and floppy versions of *AF101*.



MAINACTOR

A sort of precursor to AnimatED, *MainActor* allows anims to be converted between different formats, and played back at a reasonably reliable frame rate. Shareware.



Mainactor can be handy for finding out which animation format is best for your work.

PERSONAL PAINT

The most up-to-date paint package for the Amiga, programmed by Cloanto and available almost everywhere, including Digita International on 01395 270273. Great for painting and animation (it has a thumbnail "story-board"), the inclusion of an ARexx port makes it more flexible when co-operating with other software.



Personal Paint – a very useful tool for the animator.

DELUXE PAINT 5

Although out of date and no longer in development, there are many animation features in *DPaint* which have never really been matched by other programs. *PPaint* comes close, but the Perspective Move functions, Light Table and Tween Frame Morphing of *DPaint* make it a useful tool.

animators, Dale Hemenway and Victor Georgieve. After submitting an idea to their local TV channel, they are now in the process of creating an animated short to be broadcast in September (sorry, exact time-slot hasn't been confirmed yet, but look out for it on Central TV).

The surprising thing is not really that they are creating their film with an Amiga, but that they are doing it almost entirely on the Amiga, with only the final edit being done in a "professional" studio.

Dale's Amiga is equipped with a Blizzard accelerator, 50Mb RAM, a digitiser, and just recently an Artec ViewStation scanner, purchased after he saw the review in *AF99* (92%). That's a lot of memory, but it could be done with lots less if you break down individual scenes and dump them to tape, rather than trying to spool the whole thing off at once. The scanner isn't really essential, as the digitiser could have been used with a well-mounted camera to capture the hand-drawn frames – you could easily do it yourself. And please, do write and let us know how you get on.



Can you tell what joke I was going to re-use here yet? Rolf is a big Amiga fan.

usable, then people are going to use it and not register.

It's a great shame. It's not as if there aren't that many people using the Amiga anymore.

Dale: Actually, the people who are doing the editing for us on 'All Talk' said straight away "Ah, the Amiga, the best computer ever made". They've got them at home, but they don't have them in the studio. They can't wait to see the stuff we've done.

It is an old cliché, but the Amiga is the computer world's best kept secret really.

Dale: It does everything I want. I can't see myself changing. People think you can't get email with an Amiga, but of course you can.

How did you get started with this project then?

Dale: It's a project for Central TV. It's funded by Central TV Birmingham City Council, BBC Midlands, Central England Screen Commission and West Midlands Arts. It aims to give people the chance to make a film and get it broadcast, because finding a broadcast slot is difficult. We did put the idea in last year, but for some reason it wasn't accepted. I think it was something to do with the time. They reckoned our ideas couldn't sustain 12 minutes, but we found out that they could because our soundtrack overran by about four minutes.

Is this something that was advertised?

Dale: I don't think so. I got the details from West Midland Arts. Over the years I've got to know people and they automatically let me know about things like that.

So when it's finished and broadcast – what will that mean for you?

Victor: Relief!
Dale: Well, hopefully it will lead to other things.
Victor: We'll be famous...
Dale: Not after this maybe. Apparently one of the people who made a film last year is a script writer on The Bill now. And someone else has gone to Hollywood.

Really? They don't need any animators on The Bill though...

Dale: They don't really need script-writers either...

I tried to find contacts at the BBC, Channel 4 and so on, trying to find where people could send work they have done. It seems rather difficult. They don't seem to have any guidelines for submitting work, or even anyone to send it to.

Dale: It is extremely difficult. For the average person who is creating animation as a hobby there is Jeremy Beadle's 'Hot Shots' which may get you noticed, and pays fairly well. For someone wanting to break into the industry and create a professional animation for TV broadcast then things are a lot more complicated but not impossible. All regions have an Arts Board that gives grants to film makers, so you could make an appointment to go and see someone there – take a short piece of animation and an outline storyboard or script. It is also possible to contact TV broadcast companies directly. For animation Channel 4 is definitely the best bet. Ring up and ask for the name of the commissioning editor for animation. If you have a film finished then you stand quite a good chance of getting it broadcast if they like it. If you are looking for money to enable you to produce a film then you will have to convince them that your idea is brilliant because they are bombarded with scripts and demo tapes from people wanting production money.

If you want to work in an animation studio then you just need to compile a video showreel of all your best animation and send it to as many animation production companies as possible. A stint at art college could help. Victor and I went to Bournville Art College and there are several other colleges that have good courses. However, I've found that most studios are more impressed by what you've done. I started, many years ago, by sending an animation to Hartbeat, the Tony Hart program. I ended up doing about 22 animations for that. It's about keeping your eyes open and having confidence. Maybe a little bit of luck helps too!

How did you learn how to animate?

Dale: I taught myself really. Read books. I used to study Warner Brothers' cartoons frame by frame. Then I wrote to Richard Williams Animation, who went on to do Roger Rabbit, and I got invited there. I looked around the studio, showed them some really awful stuff I did, and saw a lecture given by Art Babbit, a famous Disney animator. I went to quite a few of those, met quite a lot of animators.

What about you Victor?

Victor: I was interested when I was small, but I didn't have the opportunity. I went to Bournville and did a foundation course in Art and Design, which I hated every minute of. After that I was a tree surgeon, a waiter – everything. One day I was doing fences, and working on Gavin Prime's fence. We got chatting and he said he'd give me some work. He didn't call me but I kept calling him and eventually I just took in my portfolio and he gave me a job. That's where I met Dale.

FURTHER READING

- The Cassel "Ways of Drawing..." series give lots of good tips on drawing human figures, and even bits of human figures – there is a whole book on eyes for example. If you haven't had a lot of drawing experience, a book like this would be rather useful.





- If you are more interested in the video side of things, then "The Guerilla Film Makers Handbook" also published by Cassell (ISBN 0-304-33854-0) is worth looking at. It deals with more diverse subjects such as financing, legal paperwork, a directory of useful contacts, location shoots and so on. It's a very interesting read, if only because of all the interviews with people who have made ultra-low budget films.



- For an inspirational read on Animation, the Disney Animation "The Illusion of Life" book is great, but skimpy on examples, and expensive too. Dale Hemenway recommends the "Walter T Foster – Animation" book by Preston Blair, an ex-Disney animator.
- If you have a really serious project going, but need some help, you could contact the British Film Institute, 29 Rathbone Street, London W1P 1AG.
- For less ambitious projects, your regional Art Council may be able to give you some assistance. If you aren't sure who they are, Arts Council of England should be able to provide you with the details. They can be found at 14 Great Peter Street, London SW1P 3NQ
- And remember to pester your local TV companies too (you can find their address in the Yellow Pages). Many regional TV stations are keen to push locally produced work. Look out for film competitions sponsored by banks and video magazines. Good Luck!



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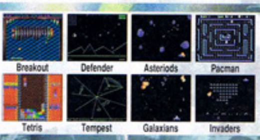
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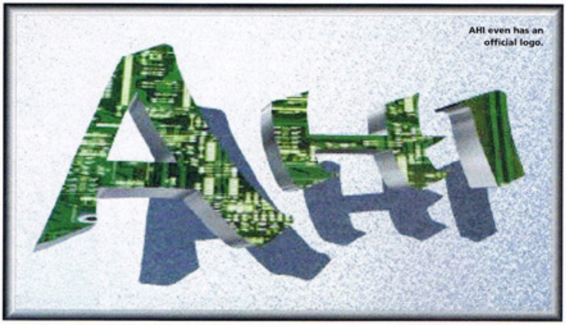
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AHI even has an official logo.

A lyrical Simon Goodwin tunes up his pen to report on the Amiga's retargetable audio system.

Audio Hardware Interface, or *AHI*, does for sound what *Picasso96* and *CyberGraphX* do for your Amiga's display. Unlike them however, it's useful even on a basic Amiga with no special audio hardware. It does require at least Workbench 2, and prefers a 68020 or better processor, but it can run on just a humble 68000. Best of all, *AHI* is free, and supported by dozens of really good programs.

AHI AWARE PROGRAMS

SEQUENCERS
AHIRecord • Camouflage v2.1
DAS Module Player • Delitracker II
DigiBoosterPro • Euterpe
Multimedia • MUIHdr110
NewTracker • HardDiskRecord

PLAYERS
AHITool (B&P) • APlayer
GMplay 1.4 • HippoPlayer
MPEGa 2.4+ • Play16
Protracker Datatype • AHI-Sound Datatype • SamX1_5
MIDI QT 1.4 • QuickTime

OTHER UTILITIES
AHI-Handler • AmiPhone 1.92
CyberSound • DoubleBuffer
GetAudioID • Gir 0.4
PlayTest • RecordTest
ScanAudioModes • Sift (tester)
SimplePlay • SinED
SoundFX • Speak Freely

EMULATORS
fMSX 1.4 • Fusion • PCx
Shapeshifter 3.6+ • SID4Amiga (C64)
WzonkaLad (GameBoy)

GAMES
Almagica • Bomberman
Foundation • Genetic Species
SpaceLander • Zone99 • HBomb

AMIGA HERITAGE

Amiga built-in sound hardware has not changed since the computer's launch in 1985. It's nominally an 8-bit, four channel system, capable of playing up to four samples at 65 volume levels (0/64 to 64/64) to a stereo line output. The sample rate is derived from display timings giving a 14KHz frequency limit – just a few tones short of the range of human hearing.



The Gadtools-based AHI recorder.

In its day this was comparable with powerful sampling keyboards like the Fairlight, at a fraction of the price, but nowadays people are used to CD quality 16-bit audio, sampled at 44.1KHz, and even higher rates and resolutions in professional studio systems. The Amiga hardware falls short of today's sound quality standards, particularly on input – there's no built-in sampler at all.

"Best of all, AHI is free, and supported by dozens of really good programs."

Third party firms have taken up the challenge, designing samplers and full audio cards. Simple samplers like *Technosound* and *Master Sound* collect 8-bit values through the parallel port. They're capable of cassette recorder quality but the 8-bit dynamic range is very limiting. PCMCIA port devices allow a higher sampling resolution but still derive timings from the main processor, restricting the work you can do with a sampler like HiSoft's *Aura*.

The best audio expansion comes on Zorro cards, requiring a big box Amiga: 1500, 2000, 3000, 4000 or re-cased 1200. Zorro cards provide buffers and timing signals, keeping the computer and sound synchronised without monopolising the entire system. Even so, digital audio is a demanding application, with tens of thousands of samples being transferred every second – up to 400,000 on the 20-bit Silicon Studio card!

The first board to really make a name for itself came from Sunrize in the USA – a 12- or 16-bit stereo card with big buffers, it ran well even on a 68000-powered A2000. This was followed by cards like Toccata, Wavetools and others.

The problem is software support – each of the old cards had its own drivers and interface routines, optimised for their card but hard to interface with existing software. The Amiga really needed a software bridge that could connect the cards to standard Amiga programs.

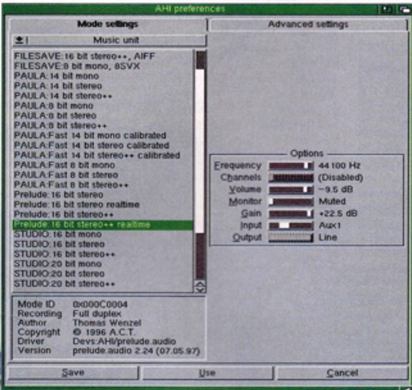
CYBERSOUND

Christian Buchner's '*CyberSound Audio Subsystem*' was the precursor of *AHI*. *CyberSound* pushed the Amiga's sample resolution to 14-bits – comparable with the first commercial CD players – by mixing two 8-bit channels, one at one sixty fourth of the volume of the other. The loud channel supplies the most significant 8-bits of the 14-bit value; the quiet one fine-tunes that with a further 6-bits of data. This ingenious trick



This logo distinguishes all of the AHI compatible products. (see the boxouts)

works, but it's not perfect. It needs two channels for each output, so you go from four 8-bit channels to two 14-bit ones – just enough for stereo. It monopolises the channel volume controls, so there's no way to fade pre-recorded samples up or down without doing arithmetic on the data. This is flexible – you can regain channels, in effect, by mixing several samples as you go along – but consumes memory, for tables, or processor power, for sample arithmetic. The more powerful possibilities require a 32-bit processor with fast memory, and may steal a lot of processor time from other programs.



AHI Preferences – the key to your new AudioModes.

CyberSound is no longer in development but many of the underlying ideas crop up in *AHI*. Swede, Martin Blom, gathered up good ideas from Workbench and earlier audio projects, to develop a 'retargetable audio' system, analogous to the Retargetable Graphics schemes which map Amiga screens to alien displays.

You get plenty of channels, but extras drain CPU time for mixing, and each doubling of the number of 'virtual channels' reduces the sample resolution by 1-bit. 12-bit channels use sample values 0 to 4095, so four of them mixed together give values up to 16380, requiring 14-bit resolution.

There's a simple trade-off between channels and bits, so it's quite feasible to call for 64 8-bit channels, played without loss of resolution on an output with 14-bit or greater precision. The CPU power may limit you to a lower number of channels, especially if sample rate conversion is being done at the same time. Special modes trade smooth fading against CPU time. *AHI* imposes a theoretical limit of 128 channels but that's enough to emulate a substantial orchestra!

AUDIOMODES

AHI uses 'AudioModes' and icons like Commodore's Workbench 2 monitor icons. You drop icons for the sound systems you wish to use into DEVS:AudioModes, just as you put monitor icons into DEVS:Monitors. One icon supports each card – including Paula and direct, silent output to a sample file – and you can have several available at once. When an application starts up it uses the default, configured with the Prefs:AHI program, or lets you select a mode from a requestor which lists the possibilities, very like the Workbench 3 screen mode requestor.

A new device in the DEVS:DosDrivers directory allows samples to be 'printed' or 'input' using a stream, just like text. Programs that write to AUDIO: generate sound, rather than a data file. This idea, from Unix workstations, is not very efficient but gives a quick way to read and write samples. For once, a 'filter' program, which modifies and rewrites its input, does exactly what a real hardware filter would do!

AHI supports established stereo cards like Toccata, WaveTools and Draco Motion and more recent arrivals like Prelude, Delfina and Silicon Studio. It can use the built-in Paula hardware and the input side of the Aura sampler. There's no support for Sunrize cards yet, but this is being worked on.

PAULA REPRIEVED

Under *AHI*, Paula is better than the bare '8-bit, 28KHz' specification would suggest. It can be pushed to sample rates over 56KHz and tuned to 14-bit stereo precision, comparable in output quality with all but the most expensive add-ons. But input is still limited to 8-bit samples, and not everyone could take advantage of the improvements.

> **"AHI imposes a limit of 128 channels – that's enough to emulate a substantial orchestra!"**

Paula is flexible, determining the rate at which samples are played independently for each channel. Lower rates give deeper notes and a duller sound. Modern audio hardware is designed for fixed sample rates – 44.1KHz for CDs – ironically, a rate derived from old TV timings. Variable rates complicate the hardware, especially for recording, so it's easier and cheaper to get good results if the possibilities are limited.

JARGON

AHI
Audio Hardware Interface – the Amiga retargetable audio standard.

ALC
Automatic Level Control – fades down strong signals automatically.

DAT
Digital Audio Tape – used for master recordings of singles and albums.

FIFO
First In First Out – a data buffer, used like a fast pipeline.

IDE
Integrated drive electronics – cheap hard drive or CD ROM.

Paula
Amiga custom chip – responsible for the standard sound output.

SCSI
Small Computer System Interface – upmarket bulk data mover

TIME DOMAIN

This presents *AHI* with another challenge. As well as converting the level of signals, by fading and mixing, it must adjust their timing to suit the sample rates available on any given card. If the incoming samples arrive slower than the card expects them, new values must be 'interpolated' to fill in the gaps. If there are more samples than the card can handle, some must be discarded or 'decimated' to prevent a backlog.

Either way, sound quality suffers. *AHI* uses 'linear interpolation' to work out intermediate values, effectively drawing a line between known levels to derive in-between ones. This is not the best technique – for accuracy you should take account of several values before and after the gap, and fit a curve to the pattern – but it's fast enough for real time work on lots of channels. *AudioLab* can do better, but it's consequently much slower.

Decimation may be avoided by running the output hardware at the highest possible rate. Otherwise you must filter input waves, smoothing them out so decimation is not misled by a sudden change between one sample and the next.

AHI does format conversion too. It supports the old 8SVX sample format, higher resolution AIFF files, and Apple-style compressed AIFC data, as well as raw samples – where you must specify the sample rate yourself, as there's no 'header' to contain such details. It can

Continued overleaf ➡

convert streams of samples from 'little endian' Intel format to Motorola byte order, with 16- or 32-bit words as well as signed or unsigned 8-bit bytes.

Alternatively you can use stand-alone converters like *SOX, MultiSample* or *MaudExchange*, from Aminet. Variants include PC RIFF or WAV files, Sun Audio and MAUD, a Toccata speciality. The latter formats use a non-linear mapping of levels to sample values, saving space by storing large waves less accurately, as a small difference in a big value is insignificant. Complex compression techniques like MPEG audio are more effective, and subtle unless overused, but gobble CPU power – as do MPEG graphics, of course. Lossless byte compression schemes like LhA give poor results on Hi-Res audio.



AHI maestro Martin Blom.

DIGITAL TWEAKS

There's incredible scope for creative tweaking of sounds. Just as *ImageFX* and *Photogenics* can blend, slice and massage pictures, equivalent audio tricks can be done with *SoundFX, AudioLab* (demoed on Aminet) and *Samplitude* (now owned by Prelude makers ACT). These can also convert between sample formats.

They work in broadly similar ways, showing samples graphically on screen, allowing you to select parts for copying, mixing and processing. Effects include filtering or equalisation, pitch shifting, time stretching (altering duration independent of pitch), echoes, reverberation and exotic musical effects like chorus and flanging, which fatten or modulate sounds. Direct synthesis is possible, building wave patterns mathematically.

These programs are greedy for processor time, memory and disk space because, as with graphics, the effects are non-destructive so you don't lose previous work when you try something new. But, if you've got the kit, there's terrific scope for experimenting and 'mixing the trick' in creative combinations. Hurrah for *AHI*!

AHI HARDWARE

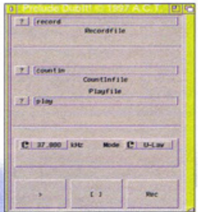
- Aura (sampling only)
- Delfina
- DraCo Motion
- Maestro Pro
- Paula (standard Amiga)
- Prelude
- Silicon Studio
- Toccata
- WaveTools

Prelude

AMIGA FORMAT GOLD

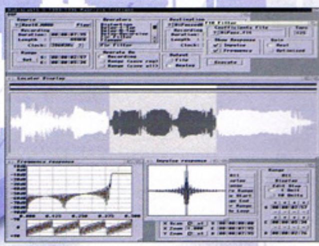
Simon Goodwin discovers that the Amiga really is capable of DAT quality sound.

Prelude is a relatively low-cost, high performance stereo sound card from Albrecht Computer Technik of Germany, which can be connected to all Amigas apart from the A600. It supports CD and DAT resolutions – 16-bit input and output at up to 48KHz, with other rates down to 5.5KHz (ugh) including the 11 and 22KHz Mac rates, and the 32KHz of digital radio.



Prelude's *DubIt* stereo dubbing software.

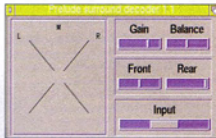
Prelude is based on a chip from Crystal Semiconductor which found fame on the Turtle Beach Tahiti sound card – rated way ahead of 'standard' 16-bit cards on PCs, and quite up to the challenge of budget professional recording.



***AudioLab* – as used on records by David Bowie and Men at Work.**

The card is conservatively designed, with just 16 chips including four gate arrays, all through-hole except the Crystal chip, in a square socket. The rear panel is kept strictly analogue, with two op amps and lots of filtering components. No less than ten input and output leads sprout from the 15-way D connector at the back panel – four stereo inputs and a stereo output, all on phono plugs on the board I tested.

The simple software mixer, a Workbench commodity, lets you adjust the faders, mixing stereo Prelude output with Amiga audio, CD output, and line inputs at will. Two 'AUX' pairs handle CD and Amiga audio. You can record from any except AUX2, the Amiga pair, and monitor any except MIC, the high sensitivity inputs. These



***SoundFX* is a sample shaper. You'll find a demo of it on Aminet.**

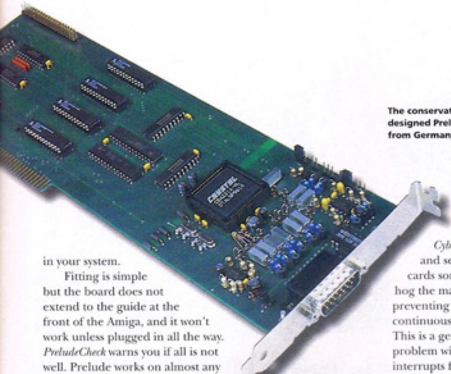
have automatic level control (ALC) and up to 20 dB gain, picking up a fair amount of noise but not enough signal for good results with a dynamic microphone. A small external mixer helps a lot. The manual explains mixing in detail.

The manual explains the mixing in words but our diagram may help. AUX1 and AUX2 inputs are duplicated on the board, for internal connections, and there's even a mono amplifier, driven via links from Amiga and Prelude audio, for a tower speaker. You can synthesise four channel 'surround sound' by feeding stereo into one of the 'tools' supplied and driving a second set of speakers from Prelude's output.

Like Tahiti, Prelude is built on a four layer circuit board, minimising interference between computer and audio. Plentiful ferrite beads keep the noise down still further. It sounds great – you'd need a pretty awesome hi-fi before Prelude could be the weak link



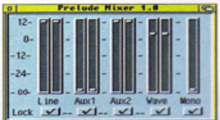
***TapeDeck* requires WB3.1 and at least 16 colours.**



The conservatively designed Prelude from Germany.

in your system.

Fitting is simple but the board does not extend to the guide at the front of the Amiga, and it won't work unless plugged in all the way. *PreludeCheck* warns you if all is not well. Prelude works on almost any Amiga – even A1000 or A500s, with a cheap adaptor – but 68000-based machines can't record and play simultaneously at speeds above 32KHz.



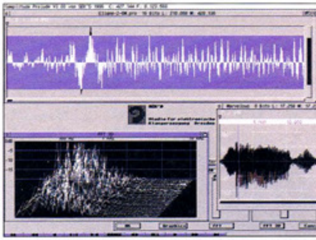
'Locks' on Prelude's Mixer force matching Left and Right levels.

Half duplex work at 48KHz is possible, as long as there's nothing much else going on. *AHI* demand more resources – PLAY16 from hard disk at CD quality gobbles about 30 per cent of the CPU time on an A4000/030, or 15 per cent on a Cyberstorm '060.

The *Dub* program plays one sample as a cue, then adds live input to another recording, making a third file. You can use this to build up multi-track stereo in classic Beatle fashion but with far less generation loss. The only limit is the gradual accumulation of hiss and noise with each overdub. ACT have a multi-tracker in development, but it's not finished yet. They sell Samplitude and support *OctaMed SoundStudio* as well as *AHI* programs.

INSTALLATION

Software installation is easy. One disk installs the Prelude driver, *AudioLab* demo, Play16, tools, utilities and developer information. Another installs *AHI*. 'Troubleshooting' files warn that *CyberGraphX* and serial cards sometimes hog the machine, preventing continuous sound. This is a general problem with programs that block interrupts for longer than Commodore recommend, and not a fault of ACT, but it means you may need to cut MaxTransfer values (the size of each gulp from hard disk) to use Prelude with bus-hogging controllers like the Warp Engine, Cyberstorm Mark 1 and A4091. It's fine with the Commodore IDE interface.



ACT have taken over development of *Samplitude*.



The dots indicate synthetic surround sound positions.



ACT's nascent multi-track recorder.

Tapedeck and GMX, the graphical recorder and mixer require Workbench 3.1 (v40) with at least 16 colours, or a graphics card, though there's no mention of this in the six page documentation. Germans seem to assume that serious Amiga users have 3.1; the improvements over 3.0 are subtle but worthwhile. A new GMX for Workbench 3.0 has just arrived.

Prelude required Installer v43, from Amiga Technology GmbH, and would not install with Commodore versions. This could upset users without access to Aminet, where the update was posted. It will apparently be on the installation disk in future. It's on *AFCD18*, with Amiga International's blessing, as *AHI* also needs it.

The Prelude is a very impressive card. It has worked well on Amigas from the '030 to the '060, with a dozen other cards and in a seven slot MicroniK tower. ACT's technical support is fast, enthusiastic and helpful, and thanks to *AHI* there's more than enough software to do some really great things.

DISTRIBUTOR: Albrecht Computer Technic, Seth 2 – 21769 Lamstedt, Germany (00) 49-4773 8910 73
PRICE: £170 (450DM) delivered
A500/A1000 adaptor £20 (39DM)
REQUIREMENTS: Zorro slot

DOCUMENTATION ●●●●○
Some trial and error required.

HARDWARE: ●●●●●
Works well and sounds great.

SOFTWARE: ●●●●○
Generally good but dull-looking.

VALUE: ●●●●○
Not cheap, but well worth the price.

OVERALL VERDICT:
The Prelude really does allow you DAT quality sound on your Amiga!

90%



GUImixer is Prelude's pretty front-end.

AFCD18:-In_the_Mag-/Emulators

ON THIS MONTH'S CD



Alien Data Emulation

Simon Goodwin shows how you can use data from other machines without processor emulation.

This month we check out alternative ways to make your Amiga compatible with data from other systems. The trick is to get the data off the alien machine and into your Amiga, in a form where the Amiga can recognise and manipulate it. You may send modified data back to the alien machine in its favoured format.

This is not as exciting as emulating a complete computer, but it's often the best way to get real work done. Once transferred, you can use real Amiga programs to process the data and these are generally faster and more convenient than software intended for another machine.

There are two stages to this kind of 'data emulation'. First you need to get the data into your Amiga. This may involve networks, serial transfers, or handlers, to access the other machine's disks. Amiga hardware can recognise most disk formats. Software must decipher the disk directory into Amiga packets, so the alien disk appears on your desktop and is accessible to any program.

"The most obvious way to move data... is simply carrying a disk from one machine to the other."

But the job's not done once the data file is on your Amiga – you may need to massage alien data to make it compatible with Amiga applications, and then convert it back later. Most Amiga programs share the IFF – Interchange File Format – but other systems lack such standards.

FLOPPY DRIVES

The most obvious way to move data between machines is 'sneakernet' – simply carrying a disk from one to the other. That's easy enough if both machines support double density 3.5" disks, like all Amigas, but other sizes and formats are possible.

Standard disk drives need extra circuitry to suit the Amiga. Unlike PCs, Amigas expect notification when a disk is changed, and can run more drives. Amigas can select four floppies at once; PCs expect to run one of two.

Two cheap chips and a meagre morsel of resistors can link up to three extra drives. These can be standard 3.5" models, 3" Hitachi drives, vintage 5.25" floppies, or 8" Shugart drives, where the floppy standard started. The connectors usually cost more than the 'electronics'.

The Amiga disk controller expects 'double density' drives with up to 1Mb capacity. Larger floppy drives can be used, but require speed changes so they don't flood Paula with data.

PLACES TO GO

Most of the best handlers and data conversion programs are on Aminet. This is just the area where a good PD collection (and our AFCD!) can fill out the gaps in commercial provision.

AMINET DATA EMULATION GOODIES

Amiga & Psion 3 laptop link
comm/misc/AmigaNCP

Streamlined serial device
comm/misc/New8N1

Slaves PC devices to Amiga
comm/misc/PC2Am

Various CD and HFS file systems
disk/cdrom

Mac HFS file system reader
disk/misc/MaxDOS

Various Graphics format converters
gfx/conv

Various Portable Bit Map conversion
gfx/pbm

MSDOS disk reader/writer
misc/emu/Multidos_1.12

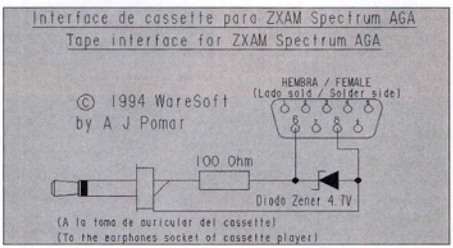
Qdos (QL) disk handler
misc/emu/Qdos4Amiga

ZXmit and MGT disk handler
misc/emu/Speculator97

Handler for C64/VIC20 drive
misc/emu/FS1541

Berkeley Unix fast file system
misc/emu/BFFS

Audio file format conversion
mus/edit/amisox33



Don't be put off by the Spanish – This tape interface for the Spectrum is easy to build.

Alternatively, at a price, the Catweasel (*AF100* 90% contact Blittersoft, Power Computing or Gasteiner) controller can link the A1200 to unmodified HD and ED drives.

BIG FILES

If you want more, consider SCSI drives like the Iomega Zip, or tape cartridges. Zip disks combine the virtues of removable hard disks and monster floppies and they appear on the desktop just like other drives. Given an appropriate handler you can access disks formatted on other machines from your Amiga desktop.

If the files that you are looking at are compressed, PCs and Macs can use Amiga LhA file compression, but PKZIP (.ZIP files) predominate on PC and Stuffit (.SIT) on Macs. Aminet's util/arc directory holds Amiga-compatible expanders for both, among others.

DEVICES AND HANDLERS

Amiga drives are accessed in two stages – a 'device' communicates with the drive, reading raw blocks of data, then a 'handler' interprets those blocks, locating files by name. You need both parts before an alien disk will appear on your desktop.

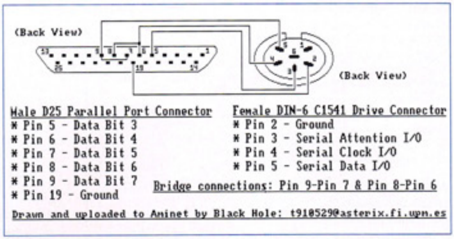
Handlers normally go in the L: directory. A 'mount file' in the DEVS: directory associates handler, device and drive. Files in DEVS:DOSdrivers are automatically mounted by Workbench 3; otherwise you may need to add MOUNT commands to your startup file, or enter them when required.

"If you want more, consider SCSI drives like the Iomega Zip, or tape cartridges."

Workbench 3 stores unused mount files in SYS:Storage/DOSdrivers, and looks there when you issue MOUNT commands, so MOUNT SP0: allows Spectrum disk access if the SP0: icon is in Storage.



Using the *Format* program in the System drawer will give you access to all mounted devices.



This one's a bit more complex, but will hook you up to a Commodore 64's disk drive.

Commodore's trackdisk.device decodes standard Amiga formats, known as OFS and FFS, and the souped-up AFS variant, while mfm.device decodes conventional PC, ST and Amstrad formats based on 512 byte sectors rather than continuous tracks. A high density (HD) drive helps, but most PCs and Ataris can write 360K or 720K double density media, if that's all you've got.

The mfm.device is part of *CrossDOS*, bundled with Amigas since Workbench 2.1. PD alternatives include messydisk.device and multidos.device, which has the limitation that it does not support high density (1.44Mb) disks. These two are Freeware for all Amiga systems. *CrossDOS* borrows code from trackdisk.device so it won't work on Kickstart 1.3, where raw trackdisk access was bugged.

CrossDosFileSystem decodes MSDOS disks. It works with partitions and hard files in PC format, as well as floppies. Just replace mfm.device with scsi.device, or the device for your hard drive, in the mount file, and insert track details for the partition, from *HDToolbox*. Take care as incorrect values could corrupt other data on your hard drive.

A slower but safer way is to pack your alien directories into one Amiga file, and use CrossDosFileSystem with hardfile.device, supplied with *PCTask*, or the *PCx* hardfile support. Jim Drew's multi-os.device handles PC and Mac disks interchangeably, with a little help from trackdisk.

Old Macs had variable speed 400K or 800K drives, which Amigas cannot handle without extra hardware. A genuine Apple SuperDrive can transfer such data to 720K or 1.44Mb format. Mac disks use the 'HFS' hierarchical file structure, recognised by *MaxDOS*, *CrossMac* and *AmiCDFileSystem*. Aminet has free HFS readers.

CD HANDLERS

Most CDs come in ISO9660 or HFS (Mac) format, both readable by the Amiga. Macs use HFS for all types of drive, so one handler supports floppies, CDs, Zip and SyQuest media. If a disk has partitions in both formats you may need to configure the handler to say which you prefer.

ISO (International Standard Organisation) disks come in various levels, ranging from crude 8.3 PC-type file names to long names with file comments, dates and protection bits. Commodore's CD driver is best replaced as it chokes on some variants.

NETWORKS

Handlers like *ParNet* allow you to access files on a remote machine but this requires matching software at both ends. The commercial Siamese system goes further than most, cutting and pasting data as well as sharing peripherals, but it does require Windows95 or NT at the PC end. Aminet handlers network Psion Series 3 and Sharp Wizard portables to Amigas, using the laptops' built-in software.

If both machines are Internet-ready I'd join them with TCP/IP, the Internet protocol. TCP drivers or 'stacks' run on Unix, PCs, Macs, STs and Archimedes, as well as Amigas. They link the *AF* editorial Amigas with Future Publishing's Mac network. TCP/IP thrives on a fast Ethernet adaptor, but could use serial or parallel ports via Aminet's 'slip' (Serial Link, Internet Protocol) and 'plip' drivers.

SLAVERY

PC2Amiga enslaves the PC, allowing the Amiga to access its drives over a serial or parallel link. It is almost as if the PC drives and printers are on the Amiga; transfers are at about 10-40K per second, largely depending on the speed of the listening machine. This Freeware miracle requires at least Workbench 2 and MSDOS 6. It also runs under OS/2 or Linux DOS emulation, and supports Windows95 long file names, unlike *CrossDOS*.

Well worth a mention is Weird Science's Network PC, which allows access to all PC drives, including network devices, and comes with the terminal software required for both ends of the system.

Continued overleaf ➡

Few computers can rival the Amiga's range of handlers, but Unix systems are better than most. Linux or NetBSD can read and write Amiga hard drive partitions, so Unix PCs, Macs, Pios and BeBoxes can access Amiga files without translation or copying.

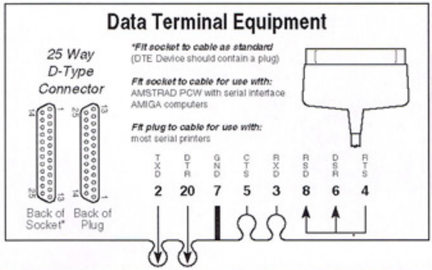
Working the other way, Chris Hooper's *BFFS* file system can put Berkeley Fast File System Unix partitions on your Amiga desktop.

MFM BETTER

Mfm.device is slow and only works with disks formatted with 512 byte sectors. Acorn Archimedes, old Apple, Flex and CP/M disks may use larger or smaller sectors, which baffle mfm.device, potentially crashing the system. And when lots of handlers share one device it takes ages for new disks to be recognised – then you find a whole pile of icons cluttering up your desktop. FORMAT needs these to determine which new format is required – select PC0:NDOS for a PC disk, SP0:???? for Spectrum, and so on.

"PC2Amiga enslaves the PC, allowing the Amiga to access its drives over a serial/parallel link."

Nicola Samoria's *MFS*, short for *MultiFileSystem*, tidies this, merging PC0: and DF0: into one icon, with a special FORMAT routine, but it's not generally compatible with file systems other than *CrossDOS*. Frank Swift's new fd.device and xfsd handler supports MSDOS, Windows95 (long file names), MGT Spectrum/SAM, Atari ST/TT, QDOS, and Archimedes modern 'E' format floppies – all in 160K to 1600K capacities, drives permitting. It even grants Workbench 1.3 the Fast File System, normally reserved for Workbench 2 and up.



Some day all serial cables will be made like this.

This all-in one approach boosts speed but leaves no easy way to change a disk's format. You get one disk icon, and one name, per drive. DIR FD0: (or FD1: etc) refers to whatever disk is in drive 0 (or 1), regardless of the format. This is neat, and fast, especially at disk recognition, but the current XFS 2.07 will not write to PC disks, and format changes are tricky.

SERIAL TRANSFER

If all else fails, you can move data between computers over a serial link – a cable joining the RS-232 ports on most machines. Computers are generally DCE (Data Communications Equipment) and peripherals like printers are DTE (Data Terminal Equipment). To connect DCE to DTE you link pins with the same name – TX (transmit) to TX, RX (receive) to RX, and so on – but a cable to link two DTE devices must swap lines, so that TX connects to RX and vice versa. Such 'null modem' cables are also used for multi-player games.

Simple, slow communications can use just the TX, RX and ground (earth) lines, but fast links require 'handshaking' – extra signals that control the flow so that transmitters know when receivers expect more data. Handshaking is the black art of serial communications, and the cause of most problems.

JIGSAWS

Emulator guru Mark. J. Swift has a standard and reliable way to link computers with disparate connectors and handshaking arrangements. His approach uses 'jigsaw' pieces for each end of the cable. Then just snap the pieces together to make a working cable. Nine and 25-pin DTE pieces appeared in my review of the GVP I/O Extender in *AF93*. Pieces for the Apple Mac, BBC Micro and 128K Sinclair machines appear here, with more on the *AFCD*.

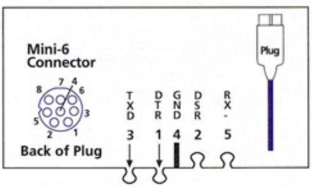
Whatever the wiring, both ends of the link must use the same speed or 'baud rate'. Low rates are reliable but limit transfers to about 30 characters per second. Reliable reception at speeds above 9600 baud depend on what else your computer's doing.

HiSoft, BSC and GVP serial adaptors work faster, storing characters to reduce the need to interrupt the Amiga. You can squeeze more speed out of the standard serial port by replacing Commodore's convoluted all-singing all-dancing serial.device with the stripped down PD 8n1.device, which only supports the simplest, most common format – eight bits of data, without the complication of parity and extra 'stop bits'.

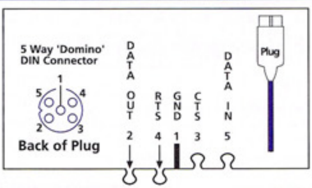
Serial file transfers can be done directly from the shell, but extra software helps. Try running a terminal program at both ends, passing files as if they were going by modem between the machines. A cross-over cable allows connection between two computers with no need for phone lines.

Specialised transfer programs make life easier. Danny Hartley's *ZXmit*, from *Speculator*, allows transfers to and from a Spectrum with Interface 1 fitted. It comes with advice on the cable and commands needed at the Spectrum end. Aminet includes similar programs to transfer data between the Amiga and portable computers from Psion, Sharp and Cambridge Computer, performing automatic data format conversion.

APPLE MACINTOSH



BBC COMPUTER



NEXT MONTH

I'll discuss alien file formats in a future column. Next month we're back on the trail of 'real' emulators.

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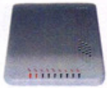
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SCREENPLAY



Andy Smith

Although Summer used to be a traditionally slow period for games, that doesn't seem to hold true anymore. This month we've got a sackful of new titles (and a couple of re-releases) in for review and a whole bunch of new games to preview. This has to have something to do with the Amiga gaming public gagging for anything new. The only thing that needs addressing now is the overall quality of the games being released. There's still room for improvement because it won't take more than a couple of disappointing buys to put a player off. The Amiga is capable of more than just great graphics so let's see some effort put into more solid gameplay eh? The Amiga is the machine for innovation and it's innovative games that are going to get the people back behind it.

AMIGA FORMAT'S REVIEW POLICY

WHAT OUR REVIEW SCORES MEAN

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up-to-date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

90+%	The crème de la crème. Only the very best, most playable and original games are awarded an AF Gold – the most highly prized rating there is.
80-89%	These games are very good, but due to minor flaws are not the finest examples of their genre.
70-79%	Good games which are worth buying, especially if you have a special interest in a game type.
60-69%	Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
50-59%	Below average games which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality games with major flaws and appalling gameplay.
Under 40%	The absolute pits.





Gloom 3 **coming to an Amiga near you soon. Check out the first screenshots right here.**





Overtaking some racers in *Flyin' High*.

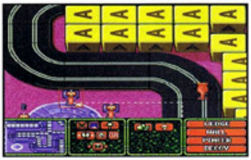




One of the 'copters you get to fly in *Gunship 2000* (there are seven in all).



Meeting the other races in *Civ* is fun. Then go to war with them. Tee hee.



See just how to deal with the game's harder levels.

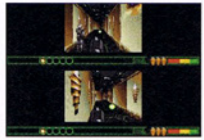
Previews






Andy Smith finds there's no let up in Epic's schedule with the forthcoming release of a handful of new and updated games...

Gloom 3



- The rather splendid simultaneous two-player, split-screen mode. It's fast too...

Gloom 3	£14.99
Available:	September
Epic Marketing:	01793 490988
Fax:	01793 514187
email:	epicmarketing@dialin.net



If you've got the power you can always play the game with the full-on, full-screen mode.



After last year's *Gloom Deluxe* (*AF82*, 91%) comes the third installment in the *Doom*-clone series. Now you're fighting against the dead – tricky because how do you kill dead things? Don't worry about the semantics, just blast away at 'em and they'll explode (showering the room with bloody limbs) and you can move onto the next stage.

Billed as having over 200Mb of new data, this collaboration from both Guildhall Leisure and Epic Marketing is due out very soon for the bargain price of £14.99 (of course you'll need a CD-ROM drive). The game is essentially similar to the other *Glooms* that have gone before it (but with new baddies obviously, including ghostly ones that can move through walls). There's a full options menu that enables you to change the window size, pixel height and width and turn the ceiling and floor texture maps on and off. So, just as in *Gloom Deluxe*, if you haven't got a very fast Amiga you can opt for a less aesthetically pleasing game and still keep the speed and gameplay, which is very good news all round because it opens the door for non-AGA owners to come and join in the fun. Hoorrah! And then there's the simultaneous two-player mode and the Death Match mode (where you get to fight in SpaceHulk, Gothic or Hell environments. Cool). Expect a full review of this very shortly.



They even managed to squeeze Nick Veitch in! Horrid eh?

Magic Island

Magic Island	£14.99
Available:	October
Epic Marketing	01793 490988
Fax:	01793 514187
email:	epicmarketing@dialin.net



Wander around the town square chatting to people, shopping, stopping for coffee, that kinda stuff.

This role-playing game was coded in Germany and is due for release in October at a price of £14.99 (floppy only).

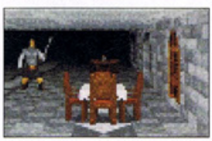
The game starts in the year 762 on the Magic Isle with a young man's journey across the island to see his father. Unfortunately the young chap's troubles start when he gets into the mountains and his horse dies. Thankfully there's a pub nearby and it's here that your adventure starts.

Expect all the usual adventuring bits, building up a party, collecting weapons and food, and fighting lots of baddies (including dragons and evil wizards) on the way to keep your appointment with your dad. Though the scenario's not exactly original, the designers have opted for a Hi-Res interlaced mode so the graphics are very detailed and there's some atmospheric sound effects to accompany the action.



There's plenty of interacting with other characters who can either help or hinder your quest and don't expect everyone to be as keen for you to reach your father as you are...

There'll be a full review of *Magic Island* in a future edition of *Amiga Format* so in the meantime, get sharpening your battleaxe.



When the time comes, whip out your sword and prepare for combat. With tables and everything.



Your starting position at the Inn. Already you seem to have recruited some people to your cause.

Grand Prix Challenge

Grand Prix Challenge ..... £TBC
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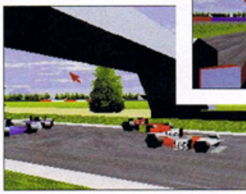
The in-yer-face cockpit screen. Dig all those groovy textures and reflections.



We've waited a long time for a decent formula one game but that's going to change soon when *Grand Prix Challenge* becomes available. This game actually appeared on a recent *AFCD* and the author received a prize for the best reader contribution. The game's not been given a release date or price point but we couldn't resist showing you some pics just to whet your appetite.

There are a range of views to choose from as you blast around the circuits, including in-cockpit, out-of-cockpit and a sort of in-cockpit-but-without-the-car-being-visible view. At present the game is mouse controlled (the natural choice for any serious racing game) so it's a bit tricky (especially at low speed).

As you can tell from the screenshots, the developers have paid a lot of attention to the graphics (just look at all that groovy texture mapping) and yet they've managed to keep it all running fast and smoothly. Hopefully it'll play as well as it looks – please accept our apologies for the scant details (Epic can't confirm anything at the mo). In the meantime, enjoy the pics and we'll pass on any more information as soon as it reaches us.



Or watch the action from outside your cockpit. Just look at all the other cars going past. More practice required methinks.



Just out of the cockpit for the best impression of speed.

Super Skid Marks 2+

Super Skidmarks 2+..... £14.99
Available............ September
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Essentially this is a re-release except the game's now on a CD. There have been a couple of enhancements to this seminal little cars-driving-around-various-tracks game, including a whole bunch of new vehicles and other stuff.

There's little more to say except that this is one of the best driving games you can get your hands on. Get some mates round, hand out the joysticks and hunch over the keyboard as you race wheelchairs and cows against those Porsches and F1 cars. There's a whole load of tracks (at least 48 if you count 'em, including the 'going around them the wrong way' option) for you to rip up and the fact that it's all together on one CD is a bonus.

And yes, the link mode is still there and so are the choices of viewing mode and so are those caravans. Epic are even rumoured to be working on a couple of new additions – and though they won't confirm that there are going to be *Silly Skidmarks* and *Farmyard Skidmarks*, they won't exactly deny it either. Intriguing eh? For just £14.99 you really can't afford to pass this up but wait for the review in a future edition of *Amiga Format* before shelling out. Enjoy...



What's the betting the banana car turns out to be the fastest of the lot? Just like real life this...





It was bound to happen, that cow is just too fast to race against. Next time I'm going for the banana car.



Indulge yourself in a game of Pong while you're deciding what to load. That ball doesn't half shift after a bit.

The Strangers AGA



The only roundhouse Andy Smith ever usually sees is the one where he gets his favourite pint of beer. Until now...



I knew it was unwise to be down in the tube station at midnight (hang on, there's a song in there)...

Kicking off Vulcan's Mega Series (Mini Series = floppies, Mega Series = CD) is this 2D beat-em-up that was originally developed in Eastern Europe.

The game's got three modes of play. Action is the main game where you, and a mate if you wish, can try to work your way through the game's eight levels in an attempt to reach the game's final boss. Deathmatch is when two to six players all enter the ring (joystick adaptors are needed for the full complement of players and if you haven't got one, Vulcan just happen to be selling 'em) and bash each other about. The last one standing here is the winner.

Finally there's the Gang Wars scenario. Again, two to six players can take part in this. The gangs can be made up of two gangs of three, three gangs of two or all individuals and instead of getting hurt, they just keep fighting for the set amount of time (which can be altered by the player). The gang that's managed to score the most points, by getting the most hits on rival gang members, is declared the winner. But let's get back to the main, Action game.



Now then, kicking these chaps off of their motorbikes is a real struggle. Too much of a struggle for poor old Leon by the looks of it.

Everything's viewed in flat 2D and the first thing you'll notice about the game is how much is looks like the old beat-em-up, *Renegade*. (*Renegade* was never actually reviewed in *AF* because it was too old when we started back in '89). And actually the action's just about the same. Move left and right, punching and kicking (forwards and backwards) the half-dozen or so enemies that populate each level and trying to avoid any attacks yourself.

> **"The gang that's managed to score the most points by getting the most hits on rival gang members is... the winner."**







The Deathmatch in action. Everyone piles into each other and the last one standing is declared the winner.



Just as in *Renegade*, after the first level there are weapons to pick up, ranging from hammers and axes to hockey sticks. There are also 'quick death' zones on several, but not all, of the levels where a well- placed kick or punch will send an opponent through a gap in the railings, or similar, and to their death. Normally, a couple of punches will put down an opponent who then gets back up and comes at you. The number of times they actually get up though, depends on the enemy. Some of the baddies on each level will only do it once or twice while some will do it half a dozen times before deciding to lie still. The really hard ones are the gang bosses on each level. These chaps (and chapesses) tend to stay out of the way of the action until just a couple of their minions are left, then they come barrelling in – in the hope of finishing you off before you manage to do them.

And as we've mentioned barrels, some of the levels also have barrels that can be picked up and chucked. When they land, they explode and cause lots of damage to anyone in the blast radius. Nice if you can get the placing right. For the most part though, it's left to your fists and feet to do the talking.

Vulcan haven't exactly chosen a killer app to kick off their Mega Series. The gameplay really is straight out of the eighties, with nothing added and nothing taken away. It's not completely appalling but it's pretty ropey. It's murderously tough when you're playing solo, and you're even going to struggle when you and a mate are working together – not least because it's so easy to get in each other's way and start smacking each other accidentally – especially if you're at opposite ends of the fighting area because the chances are you won't be able to see what each other is doing. Oh yes, the action still continues, even if you can't actually see your character or who's attacking them. At least they've included a password system so you don't have to keep doing the same levels again, once you've managed to get past them once.



One of the game's rendered cut-scenes. The next round takes place in this construction site.







Oof! Player 2 takes a roundhouse kick in the mush, just as the gang's boss moves in.

Parental Guidance

Vulcan have very responsibly included a parental lock in the game which disables one of the game's features – the fatalities. Turn the fatalities on and you'll find that when you die on a level, the level's boss will come up with some ingenious way to blow bits of your body off and leave the place very bloody. While this is very noble of Vulcan, the violence is so cartoony it's unlikely to offend anyone who's ever seen an Itchy and Scratchy scene in the Simpsons. But if you're a parent who doesn't want little Johnny playing games with cartoon blood spurting out now and again then this is probably one to steer clear of anyway. Little Johnny doesn't have a chance of getting off level one in the first place.



Forgive us for showing this if it offends, but we can't really see why anyone should be upset at the sight of a chap waving a string of sausages in the air.

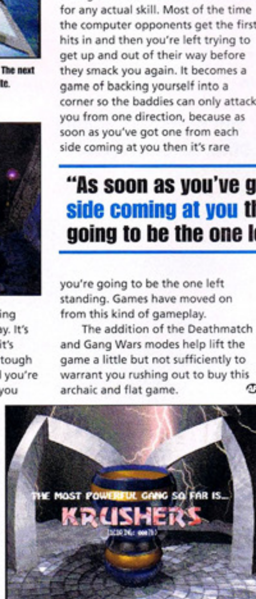
But the worst thing about *The Strangers* is that there's so little room for any actual skill. Most of the time the computer opponents get the first hits in and then you're left trying to get up and out of their way before they smack you again. It becomes a game of backing yourself into a corner so the baddies can only attack you from one direction, because as soon as you've got one from each side coming at you then it's rare you're going to be the one left standing. Games have moved on from this kind of gameplay.

The addition of the Deathmatch and Gang Wars modes help lift the game a little but not sufficiently to warrant you rushing out to buy this archaic and flat game. AF



It's when they all gang up on you that things get really difficult.

"As soon as you've got one from each side coming at you then it's rare you're going to be the one left standing."



At the end of a Gang Wars bout and the winners are announced. Can I say second toughest in the infants now?

PUBLISHER: Vulcan Software 01705 670269
PRICE: £24.99
VERSIONS: CD
REQUIREMENTS: CD-ROM, 2Mb, AGA Amiga
RELEASE DATE: Out now

GRAPHICS: ●●○○○
Distinctly flat and distinctly out of proportion. Nicely rendered cut-scenes though. Ahem.

SOUND: ●●●○○
Lot's of speech and some okay tunes and effects.

ADDICTION: ●●○○○
In one player mode you'll become so frustrated you'll want to kick something.

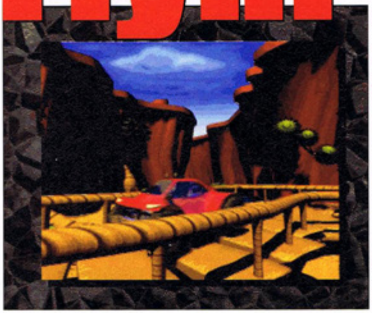
PLAYABILITY: ●●○○○
Simple to play, and unfairly biased towards the computer opponents.

OVERALL VERDICT:
The fact that it's old style doesn't make it poor. The unimaginative gameplay does that.

55%

Flyin' High

A fearless heart and an animal hunger to win are what top racing drivers need. We've only got Andy Smith however…



A lovely rendered inbetween shot. Here you're moving from the city into the jungle. This sequence lasts about five seconds. Tops.



You may mock Andrea, but I can be just as animal hungry to win as the next man (and I must have a word with you about these intro straps…). And I've proved it too because I've won the *Flyin' High* Cup. Oh yes.

> "…there's no way you're going to avoid that second road cone because your car just doesn't seem to want to steer."

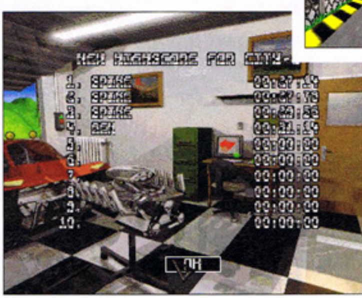
This racing game puts the player at the wheel of a kind of souped up VW Beetle (viewed from behind) and takes him through twenty races (five races on four different terrains: city, jungle, forest and snow). The idea's obviously to win the race by being the quickest and crossing the line ahead of the others after each race's five laps. Do that and you pick up some bonus money to spend on extras in the shop before the next race.

And here's my first problem with the game. After a few races you'll have earned enough money to buy yourself some goodies. The trouble is, there isn't much worth buying. The turbos are alright – press enter and then the fire button on your joystick to fire the turbo off and away you go – until you hit something and it stops. Annoyingly, this happens often, because each course is littered with obstacles that you're bound to hit.

There are road cones and oil barrels on the actual track while plants and snow drifts hug the roadside and, because each course invariably twists first one way and then the next, the chances of you getting round a series of corners without hitting something at the side of the road are minute.

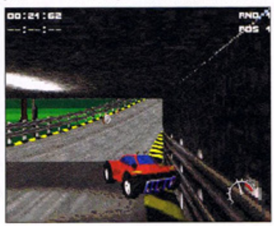
Then there are the rockets. There are big rockets and small rockets and I assume the idea's to fire them at the cars in front of you. I say assume because even though I've fired dozens of the things I've yet to hit anything. They're a complete waste of money because none of the seven

Find out who's best when the race finishes. Obviously Ben's not quite up to speed just yet (tee hee).





Mind the cones. You only have to clip one and you're off into a speed-destroying spin.







On the forest stage. Collect the money (left) if you really want to (you shouldn't need to by the time you reach here). Getting some air and admiring the flora (right).





Getting some more air on the forest stage. Watch out for the deadly flowers too. Far left, mixing it with the other racers.

"Once you've bought a good engine and you've got some fast tyres there's nothing left to spend your money on."

computer controlled players use 'em. When you're playing against humans (up to four of you can play if you've got a couple of joystick adaptors) things are slightly different, but they're still not that effective because they only go in straight lines and your chances of a strike are slight.

Then there are the spikey tyres. These are supposed to give you more grip but the difference they actually make is unnoticeable. The fast tyres are the only useful thing to keep buying. You need to buy a new set for each race but when you've got 'em on your top speed is dramatically increased. Finally there's the one off purchase of a better engine. That's your lot. Once you've bought a good engine and you've got some fast tyres there's nothing left to spend your money on.

Have I mentioned how twisty and turny the later tracks on each level are? And how uppy downy they are too? No? Well they are! Have I told you that you spend a lot of the race just at the side of the track because it's the easiest way to get round? Even when there are loads of bushes or whatever at the sides of the road it's still easier to just keep going in a straight line and let the car move from one side of the road to the other as you go through corners.



Powersliding round a bend. Mind those bushes on the side of the road though.

And controlling your car is the worst part of *Flyin' High*. For a start it's joystick only and secondly it's one of those push forward to accelerate and at the same time try and turn left and right. Your car's steering is a nightmare. It takes an absolute age to actually turn and once you've got past more than ten degrees of centre you're into a powerslide.

And the car's poor controls really become noticeable when you've hit something. Suddenly you spin round, lose all your speed and usually end up at the side of the road. Fine, press forward and try to steer right because there's a road cone just in front of you. Five minutes of playing this and you'll know that there's no way you're going to avoid that second road cone because your car just doesn't seem to want to steer – especially at low speeds. It's maddening. Hitting another car is equally frustrating. You just stop. Instantly.

Flyin' High could have been a much better game. The speed is most certainly there and the graphics are all well and good (if your machine can handle it, go for the 320x256 resolution) and even the sound's passable. What's really needed though is some simple playtesting. Surely someone could have come up with some decent tracks? The ones in the game are poor because they take away any element of skill. It's all very well going up and down and twisting all over the place but not when you can't actually use some skill to drive through them.

Frankly, I'm disappointed with *Flyin' High*. It's got a lot of potential but most of it's been wasted by some silly gameplaying errors.



Facing the wrong way after losing an argument with a particularly stubborn rock.



On pole position for a city race. The chances of you staying ahead are very slim indeed.



When you've got enough money, go for some fast tyres. They'll help you win the race which means you'll then be able to afford the racing engine (you can only upgrade your engine once during the game).

PUBLISHER: Epic Marketing 0500 131486
PRICE: £29.99
VERSIONS: CD and DD
REQUIREMENTS: A1200 and 6Mb RAM
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Very nice if you've got a fast machine. Clunky and blocky if you haven't.

SOUND: ●●●○○
Not much by way of sexy engine noises but the music's okayish.

ADDICTION: ●●○○○
It wears thin once you realise really trying gets you nowhere.

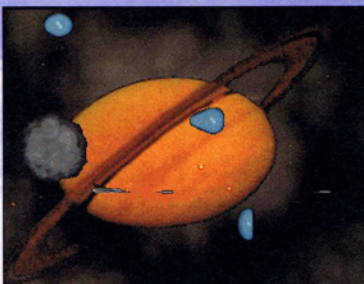
PLAYABILITY: ●●○○○
Your car's a cow to steer and there's no mouse or keyboard option.

OVERALL VERDICT:
Needs better designed courses and a re-working of the whole control system.

65%

Wendetta 2175

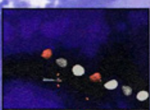
The more things change, the more Andy Smith gets left behind. Still, it's good to know the shoot-em-up is alive and well...



Player two bites the dust at the hands of some vicious blue blobs.



Amiga Format planning meeting with the Superior Being (Alison).



This line of rocks can't be avoided. Shoot yourself a hole...



See that yellow thing in the middle? You want to pick that thing up.



Here you've got to hit the baddies another 58 times to move on.

Seems like ages since I've played a half decent shoot-em-up and it's absolutely yonks since I've played one that's as imaginative as *Wendetta 2175*.

There's the usual scenario stuff – you versus a race of aliens that want to eat you, (read an interesting piece in the Guardian the other week, someone was wondering if visiting aliens would have the moral right to hunt and eat us, given that they would have superior intelligence and would therefore be aware of our emotions? But anyway...) and, of course, you're the only one who's able to save the world. That's not strictly true because *W2175* is a simultaneous two-player game, if you fancy getting some help.

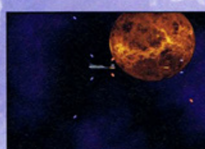
"...the gameplay's solid and challenging and there are some lovely background graphics to fly over."

You know the drill

There are all the usual shoot-em-up ingredients: fly left to right, shooting at all the enemy ships that come at you from both sides of the screen, and collect little spinny icons that affect your ship in various ways – usually boosting your firepower and giving you the odd extra life. The familiar 'come back alive with one less weapon' system is here too – as you go through the game you gradually build up your firepower until you're shooting in pretty much all directions. Manage to get yourself killed (not difficult at some points in the game like when there's a whole string of meteorites bouncing onto the screen giving you nowhere to hide) and when you restart you've lost one of the weapons you had before – this isn't too serious if you were fully tooled up, but it can be tricky if you've died a couple of times



An end of level boss and again you've got to register a certain number of hits before he dies.



Ooh, look at the lovely planet. And at the rather impressive firepower I've managed to collect.



Another alien, another planet. Still got all the firepower so those aliens shouldn't be tough.



Now that's a lovely rendered ship in the background. But that's all it is – a background graphic.



The game over screen. This is just for illustrative purposes you understand. I'm not crap really…



Another alien is about to bite the dust. Hopefully, he'll drop an icon.



Rocks come from the back of the screen to the front here.

in a short space of time because you're right back to the puny laser you started off with.

Under fire

But there are also some more imaginative bits that you are less likely to have come across before. Several times during the missions (the game's levels are called missions and you're given a code at the end of each mission so you don't have to keep going through all the early levels) you'll find that the enemies come from the most unlikely of places. There are times when you find your guns don't work and you have to survive for a set number of seconds (there's a timer at the centre bottom of the screen) amid a bunch of crashing asteroids.

Then there are the moments when you can't progress past a particular bunch of aliens until you've registered enough hits on 'em (again, the counter in the middle of the screen gives you the info). This is what happens when you encounter the end-of-mission bosses too, so seeing them off can take a while.

You can take a couple of hits before dying (there's a teeny-tiny strength meter for each player at the bottom of the screen) so just a slip here and there is okay, because you can get away with it.

All the little extras work well within the framework of the main game and add up to keep it fresh and interesting. But don't lose sight of the fact that the framework of the main game is just a shoot-em-up with all the usual bits attached.

Power up and play

I like *W2175* though, it's better than your average shooter because the gameplay is solid and challenging and there are some lovely background graphics to fly over (as well as the enemy sprites). It's not the greatest game since sliced bread but it's good that some of our old favourite genres are not being forgotten and it's reassuring to know that people still have the imagination to be able to add new twists and features. The only thing to bear in mind is that you're going to need a pretty powerful Amiga to run the thing, but that seems to be the way of most things these days, so presumably most people have upgraded their machines.

So there you have it. *Wendetta*

"There are times when you find your guns don't work and you have to survive for a set number of seconds..."

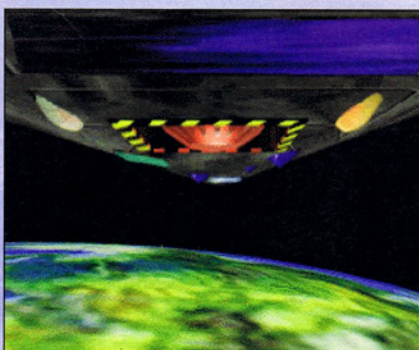
2175 is a better-than-average shoot-em-up with a couple of nice features and good gameplay. Play it with a mate in two-player mode and you'll have even more fun but it doesn't get any harder so you'll get through it much quicker, which doesn't exactly help its value-for-money rating an awful lot.



Fighters spookily like the ones from Star Wars.



These asteroids go bouncing around the screen and you have to survive for a set amount of time.



Eek! The evil Terrons have arrived. Time to jump into a pathetically underpowered ship and fight 'em then!

PUBLISHER: Epic Marketing 0500 131486
PRICE: £19.99
VERSIONS: AGA Amigas
REQUIREMENTS: CD ROM, 4Mb
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Very nice indeed actually. Especially some of the background stuff.

SOUND: ●●○○○
Hmm. Not so hot here. There's the usual spacey shoot-em-up music and effects.

ADDICTION: ●●●○○
The adrenaline soon starts kicking in. It's got plenty of that 'ooh, give us a go' factor.

PLAYABILITY: ●●●○○
Easy as you'd expect but still a challenge so you won't be finishing it in 10 minutes.

OVERALL VERDICT:
Good looking, playable and challenging. A few tweaks would make it better than average.

71%

Re-releases

Gunship 2000

AMIGA GOLD FORMAT

Andy Smith has always wanted to fly a helicopter. Gunship 2000 not only gives him the chance but hands him some missiles too. Duck...





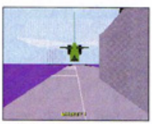
Arming the chopper with the correct ordnance for the mission ahead is an important task. Best leave it on automatic if you're a little unsure of what's best to use on what.

And duck fast because I'm in the mood for some Hellfire action. *Gunship 2000* is an awesome game smoothly combining flight sim and combat action.

Flying either single missions or controlling a squadron of helicopters, the idea's to jump into the cockpit of one of seven US combat choppers (some are reserved for experienced players who've earned high enough promotions during their missions) and go kick enemy butt in either the Persian Gulf or Central European theatres of war.

> **"...the idea's to jump into the cockpit of one of seven US combat choppers... and go kick enemy butt..."**





Flying a night mission (top) and an out of cockpit view of your helicopter taking off from an aircraft carrier (bottom).

Single hit

The missions are varied but fairly straightforward. They usually involve the player having to fly to a primary target, a secondary target and then back to base. Obviously, the enemy aren't too keen on Apaches and Commanches coming at them so they tend to fire back a lot. Normally you can take quite a bit of damage but on the later missions you'll find yourself downed with a single hit if you're not careful.

The campaign mode puts you in charge of a flight of helicopters over several missions as the war ebbs and flows around you. Challenging stuff, especially if you opt to turn on some of the more realistic options – like being able to crash and things. Naturally, I didn't. But that's one of the reasons playing *Gunship 2000* is so rewarding, you can tweak options here and there to change the flavour of the game you're playing. Some people just want to go shoot things. Others want realism that means they have to use the helicopter as a proper fighting machine – flying low, using the natural terrain, avoiding enemy gun emplacements that aren't crucial to the brief, or deciding on an appropriate flight path.

Which ever way you want to play though you're going to enjoy it. The action's thick and fast, as are the game's graphics and the sound's excellent.

Playing with a helicopter/flight sim is very different to an aeroplane flight sim where you're thousands of feet in the air, shooting at targets that are 35 miles away. This is all about 100 knot flying, at sub 100ft altitudes, popping up from behind hills, letting off a couple of missiles and then sneaking home via the back door. Thrilling, gripping – it's a game that's more than stood the test of time. Keep 'em coming Guildhall.

PUBLISHER: Guildhall Leisure
PRICE: £14.99
VERSIONS: All Amigas
REQUIREMENTS: 1Mb
RELEASE DATE: Out now

GRAPHICS: ●●●●○
Excellent. Fine cut-scenes and chopper interiors – even the terrain's good. And fast.

SOUND: ●●●●○
Again, excellent – from the 'whop-whop-whop' of the rotors to the background music.

ADDICTION: ●●●●○
Start getting your character through a few missions and you'll be hungry for the next.

PLAYABILITY: ●●●●○
Novices can turn off most of the complex controls and veterans can turn 'em on.

OVERALL VERDICT:
A splendid action game that provides many, many, many hours of thrills and tension.

90%





Bert Reynolds chats to ex-AF staffer Graeme Sandiford (left) while the chopper locks onto a frigate (above) in a sea mission.

Civilization CD

AMIGA FORMAT GOLD

Having voted it his second favourite Amiga game of all time, Andy Smith relishes the chance to get stuck into the CD version.

And what a glorious experience playing *Civ* is. The game might be ancient (first reviewed in AF38, 94%), having first come out in 1992, but it's still just as much fun to play today.

Just in case you don't know what it's all about, you're trying to build up an empire (to stand the test of time as the box blurb will have it) and defeat any of the seven (at most) rivals who are all trying to do the same thing. Along the way you'll decide how to develop your civilisation by choosing which areas of knowledge to study, from pottery to atomic theory, depending on what you've learnt already.

It's a sugar-coated wargame though, the idea being to trounce the other guys, make loads of money and build lots of cities along the way. But it's the sheer playability that makes *Civ* so addictive and involving. You sink or swim by your decisions, making and breaking alliances when the time's right, stomping across the globe when you have enough firepower to take on anyone and going about things in a general megalomanic style. Sigh.

And as to the CD version? Well if you've already got *Civ* on your hard drive then don't bother with it. Nick reckons there are some graphic changes but, although I hadn't played the game for a couple of years, nothing jumped out as different. Sure, *Civ* is brilliant and everyone should own a copy, but there's nothing new to the CD version. It's just well, *Civ* on CD. Actually, if anything, the game's slightly slower in this format – it seems to take an age to switch between the little animated screens (when you build a new building) and the game screen, and it takes a while to respond to mouse clicks. It's especially lethargic when you're playing the non-AGA version – but that is still better than *Colonization*, the sequel.

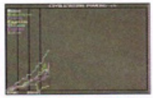
> **"It's a sugar-coated wargame, the idea being to trounce the other guys, make loads of money and build lots of cities..."**

Despite the speed problems, gameplay like this never goes out of fashion. Guildhall must be applauded for bringing out a version of the game on CD and for their general attitude to Amiga games. Of course, what we'd really like is for Sid Meier to come back to the Amiga and start coming up with some fabby new games. Much as we like being able to play classics like this, what we all want is something fresh. Ho hum.

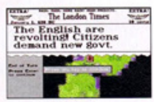
The upshot then. *Civ*'s a brilliant game that's an absolute must if you haven't got it already, but the CD version isn't worth buying if you have it in the original format.



Your fledgling city starts to take shape.



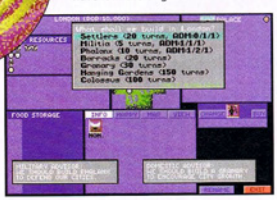
At the end of the game you can view the charts plotting your progress through the millennia. Very interesting reading it makes too.





Early in the game and the Babylonians are building cities rather too close to your home town for comfort. War will ensue. You watch.







This bloke here is yer actual Sid Meier so now you know what a games guru looks like. With the secret of Iron Working discovered, there's going to be no stopping the English (until the Babylonians destroy 'em)!



Right at the start of the game some handy annotations appear to remind you what everything does and where everything is. Nice of 'em eh?

PUBLISHER: Guildhall Leisure 01302 890000
PRICE: £14.99
VERSIONS: All Amigas (CD32 only with hard disk)
REQUIREMENTS: CD-ROM, 1Mb free
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Nothing special but they have that something about 'em that makes you love 'em anyway.

SOUND: ●●○○○
Very twee, bouncy little tunes and not much in the way of sound effects either.

ADDICTION: ●●●●○
Once you've started it's very hard not to just keep on going. And going and going.

PLAYABILITY: ●●●●○
You don't have to deal with the hard stuff until you're sure what you're doing. Great.

OVERALL VERDICT:
Simply one of the best Amiga games of all time. A definite must for your collection.

94%

There's never a fancy poster or keyboard overlay to add value to these games. Andy Smith's lucky if the authors remember to put their name and address on the disks. They are created at home. They are, of course, the...

Reader Games

ON THIS MONTH'S CD

AFCD18:-ReaderStuff-/-ReaderGames-

Not that we ever expect or need any fancy posters or keyboard overlays. We don't even mind if the readers occasionally forget to put pictures of themselves in the envelope – although we'd much prefer it if they did! The only thing we're concerned with here is what the game plays like. It doesn't have to look great. It doesn't have to sound fab. Just as long as the author has tried to create an enjoyable and entertaining game, then that's good enough for us.

And a really good game is going to win the month's £50 Star Prize, so that's got to be worth giving it a shot, hasn't it? Even if you don't manage to win the prize you can still have thousands of people looking at your game because we now include them on our cover CD (look, stop moaning, go out and buy a CD-ROM drive, you know it's about time). And what's more, every reader who plays the game will get the chance to vote for it. Groovy. And the only extra bit of work you've got to do is fill in the disclaimer form at the end of the section. Now then, onto this month's fabulous selection...

GAME: Bomb Squad AUTHOR: Robert Benjamin LANGUAGE: Sign?



Reader Games' most consistent contributor, Robert Benjamin, hasn't let us down this month. After the rather poor *Hamburger Heaven* (see last month's Reader Games) here's something slightly, but not significantly, better. Essentially it's a game of Simon – the disc that flashed coloured lights in a sequence, that you then had to copy.

Here though, you're defusing bombs by following the instructions – cut this wire, then this wire, then this wire, that sort of thing. Actually, it's not all cutting. You have another tool which you use to pull bits of circuitry off the bomb. Get any of the steps wrong and the house you're working in goes boom. And to add just a smidgen more pressure you've got to do all this within a time limit.

It doesn't look great and unfortunately you've got the horrid Amiga speech telling you what to do so it doesn't sound very good either. It is simple fun though.

Unfortunately, the fun doesn't last too long (and I'm sure there's a bug in it because I swear I pulled the right thing a couple of times, only to have the bomb go off again), so don't expect to be playing this for longer than a couple of hours.



Follow the instructions or everything simply goes 'boom'!

VERDICT:

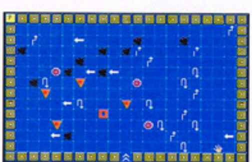
A simple, but mostly efficient game of following instructions. There's very little by way of surprises and it won't keep you playing for more than a very short while.

GAME: Crazy Ball AUTHOR: M Knight LANGUAGE: Blitz Basic

Here's a twist on an idea that proves to be evergreen in Reader Games. Basically you're directing a ball towards a series of icons that need to be collected in order to open the exit and move onto the next level.

The twist in this case is that the playing arena is littered with direction arrows, that send your ball all over the place, and black holes to be avoided. The idea is to try and work out where the ball's going to be sent. If it's going to go in the wrong direction then you have to lay a 'move the ball left' or a 'move the ball right' (which usually means you're sending it towards another icon you don't want it to hit). Every time you lay down a direction icon a ball is released. Whenever it hits a black hole or the playing arena's walls, it is destroyed. The ball is also destroyed when you actually collect one of the icons you're supposed to be collecting, but for every icon you do collect you get another ball.

It's not original but that doesn't matter. What does matter is that it's all too easy to get yourself trapped. This, and the fact that the game hangs when you click somewhere outside the playing area takes away most of the fun.



Those triangles are what you're trying to collect but with all those arrows sending your ball all over the place, don't expect it to be easy.

VERDICT:

Fine as far as it goes but a couple of annoying niggles spoil the party and I'd say there are just too many arrows to start with.

£50 winner!

GAME: Egg Salad AUTHOR: Bertie Davis LANGUAGE: Amos Pro

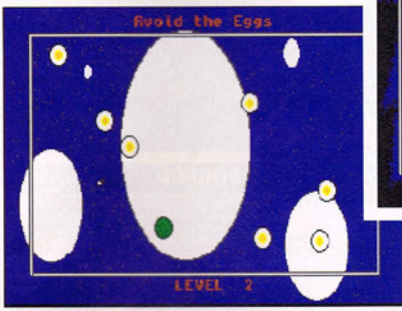
This month's well-deserved winner is a bit of a surprise. Not only is it good fun to play and not only does it sound great but it's come to us from one of the youngest coders ever to have featured in Reader Games. Bertie is only 11.

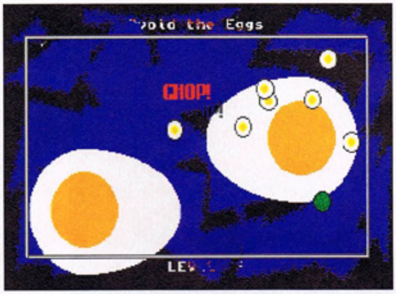


Again it's a terribly simple idea but it's the implementation that's earned Bertie his £50 (to spend on sweets, I bet), that, and the fabulous music that accompanies the action. All you have to do here is move your little green disc around the small playing area, avoiding contact with the fried eggs that bounce around the screen. Survive for a dozen or so seconds and you step up a level. The background changes, the music changes and the fried eggs get faster. That's all there is to it. And what fun it proves to be. The levels only last a few seconds so you can become really addicted as you attempt to make it through. However, any contact means instant game over and you have to start all over again.

This actually works better than giving you a number of lives simply because the levels are so short.

Wherever Bertie's future lies, be it in programming or the music industry, he should have a very bright future. Great stuff.





And all you have to do is avoid the eggs. Mind you, we couldn't get past level four (and that was after several days trying). Eggsellent stuff (sorry about that).

VERDICT:

A simple game terribly well implemented, with such a groovy soundtrack to match the action that I couldn't fail to give the young fella this month's Star Prize.

GAME: Space Pack AUTHOR: Thomas Venables LANGUAGE: Amos Pro

This game is a right old family affair – the graphics are by Andrew Venables, the music by John Venables and the whole thing is put together by Thomas.

And a fine job they've done too. It's a simple shoot-em-up but with some decent gameplay. Start by selecting who you're going to be fighting against, then pick yourself a weapon and prepare to battle your opponent.

The different weapons are great – they all have different power levels and thankfully the most effective weapons require the most skill to use. Your alien opponents are also varied and you'll need different tactics to beat each of them.

The music's not half bad and it's all put together very well. My only complaint is that the graphics are a bit ropy (sorry Andrew). They're not awful but if they were improved it would certainly add to what's currently a great little game. It really shows how much effort the lads have put in to getting the gameplay right. Well done lads, you came very close to scooping this month's Star Prize.









Pick your enemy and weapon (top) and then go and fight them. Believe me, it plays a whole lot better than it looks (not that it looks that bad really).

VERDICT:

A fine game that's challenging and fun to play. Only the graphics need some work. Any chance of a two-player mode? With one player controlling the aliens maybe?

GAME: Yo! 2 AUTHOR: Damien O'Donnell LANGUAGE: Blitz Basic

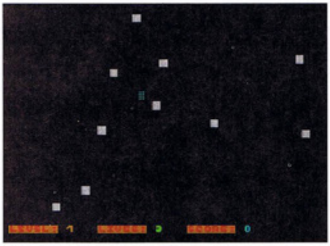
This game's been included in this month's Reader Games because it at least attempts to be a little bit different. It's an odd game – if you can actually call it a game. Give it a go and you'll see what I mean – but it's actually quite addictive.

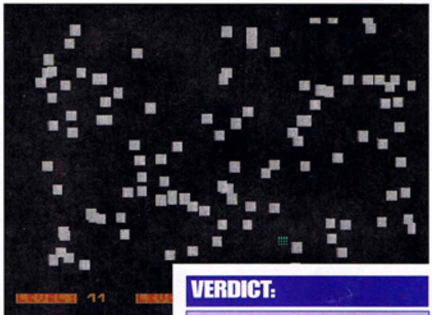
Now I know I'm always banging on about how often the simple ideas, well implemented, are the best but this is almost reducto ad absurdum. All the game consists of is guiding a white pixel (yup, a teeny-tiny pixel) to the screen's randomly placed exit which is symbolised by a blue square. All you have to do is avoid the, also randomly placed, white squares that litter the screen. That's it. The faster you manage to get to the exit the larger the bonus but contact with any of the squares means that you automatically lose one of your three lives.

The game gets progressively harder because each successive screen has more of the white squares. And that's your lot, you just keep going until you run out of lives.

The pixel moves well mind, there's a nice bit of inertia on there and the automatic slow-down is a nice touch. Just about the only thing I'd change is the fact that sometimes the randomly placed exit is actually inaccessible – when it happens to fall on top of a white square everything's okay because the exit takes priority, but sometimes the exit sort of falls mostly off screen and your pixel isn't allowed to get near it. This is a tad annoying.

Otherwise, *Yo! 2* is simple, pointless and erm, sort of fun in a not-very-exciting way.





It's simple, it's silly and it has some short-term fun built in. Doesn't look it though eh?

VERDICT:

Smooth and easily playable with some addictive qualities but the fun wears thin, fast.

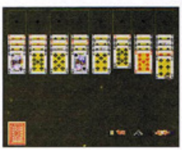
GAME: Solo Card Games AUTHOR: Leon Pennington LANGUAGE: Blitz Basic 2

This little number gives us nine patience variations, from *Klondike* to *Scorpion* via *Miss Milligan* and *Pyramid*.

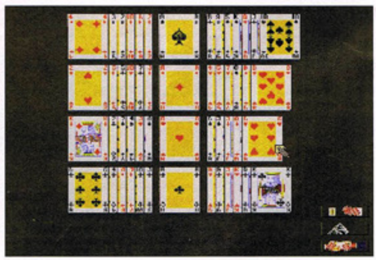
Surely you all know how to play patience so straight into the critique: this is in Hi-Res laced mode. There is no need for this when the object of the exercise is to see the cards clearly and easily. As for the games themselves, well they're fine. Just fine, with no fancy tricks or shortcuts, so we're left with an all-well-and-good bunch of patience games. Fine.

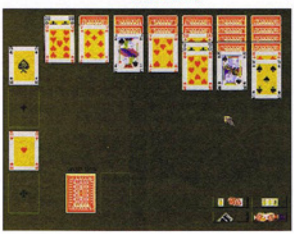
Apart from the inappropriate display mode the only other niggle I have is that when you go to read the instructions it seems to display the text about twice as wide as it should be so you miss the ends of sentences.

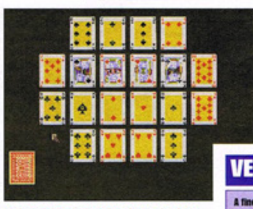
Okay, so that was a short look at an alright bunch of patience games. Not crap but not outstanding either.



See? D'ya see? The cards are too damn small and indistinct.









Another variation on patience. Just when you thought you were going to get bored of Klondike...

VERDICT:

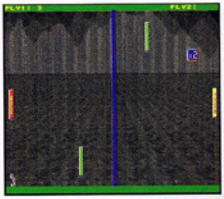
A fine bunch of patience games. If only the author had picked a more eye-friendly display mode.

GAME: Alien Pong Trilogy 2 AUTHOR: Gareth Griffiths LANGUAGE: Amos Pro

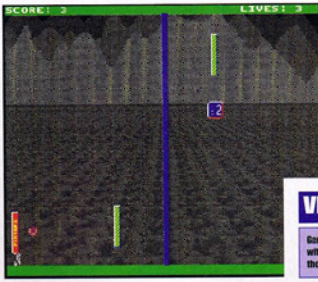
I've said this before, but it's worth saying again: I'm always impressed with a coder who can take a slagging-off and come back for more. Gareth's one such person because when I looked at the first version of this game (*AF97*) I said "Gareth lives around the corner from a couple of my mates. And yes, that's the only reason I've included his game"! Harsh stuff but deserved.

So what's Gareth done? Gone back to the drawing board and had another go. Now he's come up with something that's better. It's still not the greatest game in the world but it's a definite improvement.

Gareth's introduced some more paddles and added some power-up icons. These power-up icons now speed the ball up or slow it down when collected. The biggest problem I have with the game is that once you've lost a life the next ball comes flying out far too quickly. If only the ball would appear in the middle and maybe flash for a second or two before flying off, I would be more inclined to play it. More power-ups, including some that do more than just the predictable wouldn't go amiss either.



Well, it's erm, better than the last one but it's still not going to capture your attention for any significant amount of time.



VERDICT:

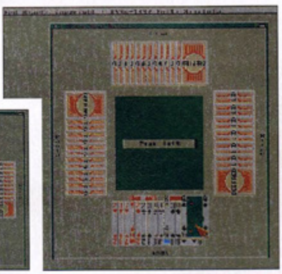
Gareth's taken the criticism on board and come back with something better. It's not a tremendous game though and you'll be bored after ten minutes.

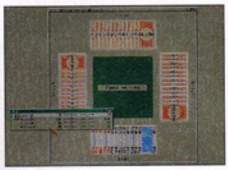
GAME: Deep Red Hearts AUTHOR: Antti Siirtola LANGUAGE: Unknown

This game is inspired by MicroSoft's adaptation of a popular card game called *MicroSoft Hearts*. You have to try not to win any tricks by laying your handful of cards tactically. Suppose you've got a king and queen of spades and somebody ahead of you lays a six of spades. Because you've got a spade you have to lay it. If you take a chance and go for the king then that's lucky because the person after you has to lay their ace. They win the trick.

This is a nice patience game and it works very well but my biggest problem with it is that again, it is in Hi-Res laced mode. This makes it hard to play for any length of time simply because the cards are too small. There was no need to go to such lengths simply to display playing cards. Despite the fact that there are some lovely touches in the game (the cards pop up when you pass your cursor over them) it's just too eye-straining to play for any length of time and a less fancy version would have gone down much better.







Another almost criminal attempt to ruin a perfectly fine game by making it so hard to view. Please don't do this folks. Please. Thanks.

VERDICT:

Very neatly done and great fun to waste some time on but Antti's desire to be a bit flash has detracted from the object of the game – to keep you playing.

MORE OF THE SAME PLEASE!

When you're sending in your submissions make sure you also give us:

1. an address where you can be contacted
2. details of the language used to create the game
3. a recent photo of yourself.

The address to send your stuff into is:
Reader Games • Amiga Format
30 Monmouth St. • Bath • BA1 2BW

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Choice 1: ....

Choice 2: ....

Choice 3: ....

Name: ....

Address: ....

....

Tel Number: ....

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Everything included on the AFCD must have a reader warrant with it. Just cut it out off this page, sign it and send it in to us with your game and a recent photograph of yourself. A last reminder: if you don't include this warrant we simply won't be able to put your game on the CD – and that means you won't be able to have it judged by other readers.

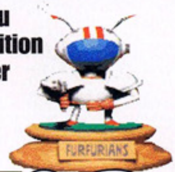
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GameBusters

So that was Summer then. Time to get back into that game you nearly finished back in April. Except you forgot to save your position and now you want to cheat your way to where you were. Never fear, Andy Smith's here to give out some timely hints and cheats…



Tiny Troops Part 2

Veteran *Tiny Troopers* will have stormed their way through last month's guide to the first 25 levels of Vulcan's great skirmish wargame (*AF95* 88%) so here's how to fight through the last battles. Right, put your general's caps on…

LEVEL 3

BATTLE 26

Ignore the crab, it isn't a threat. Just let them come to you, protect your base, then Armageddon.

BATTLE 27

Protect your base and use one foot soldier to lure enemy troops towards your forces, then wipe them out. Send all your ground forces up past the crab (careful to avoid it) and take out the anti-aircraft gun. The sonic boom is designed to act as a decoy for the anti-aircraft gun to shoot at, while you send flying units towards it, but this is unnecessary as the whole level can be completed with ground units. Ignore the pillbox, just hit the Armageddon button.

BATTLE 28

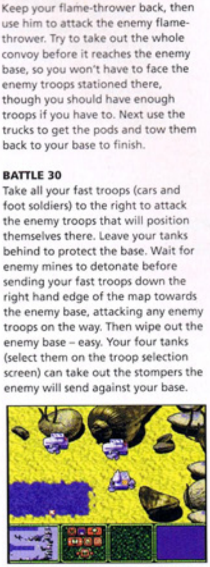
This level won't take a minute. Simply send the mine layer down to the door of the castle, and when the door blows, click on the P.O.W. Then click on the repair icon to send him back to your base. Should enemy vehicles attack the mine layer or the P.O.W. just set the rest of your troops onto them and finish them off.

BATTLE 29

The best troop combination here is all the tanks, both trucks and the flame-thrower. Intercept the convoy, sending all your tanks and trucks to attack the lead truck before it gets to the base, or the mission will fail. Keep your flame-thrower back, then use him to attack the enemy flame-thrower. Try to take out the whole convoy before it reaches the enemy base, so you won't have to face the enemy troops stationed there, though you should have enough troops if you have to. Next use the trucks to get the pods and tow them back to your base to finish.

BATTLE 30

Take all your fast troops (cars and foot soldiers) to the right to attack the enemy troops that will position themselves there. Leave your tanks behind to protect the base. Wait for enemy mines to detonate before sending your fast troops down the right hand edge of the map towards the enemy base, attacking any enemy troops on the way. Then wipe out the enemy base – easy. Your four tanks (select them on the troop selection screen) can take out the stompers the enemy will send against your base.



Waker-type things come a-stompin' for the Klutes. Shame they've all run away – they read the tips!

BATTLE 31

Use your trampoline to send your flame-thrower and foot soldiers over the rocks to the right and kill the two enemy foot soldiers and grenadier. Next send these same troops up the map to attack the enemy pillbox from the right (this one can only fire to the left). Wipe out the rest of the enemy troops by luring them towards the pillbox. Free the P.O.W.s and return them to your base.

BATTLE 32

You don't need the trampoline. Firstly wait by your base and destroy the enemy troops that attack. Move your grenadiers away from the battle so that they don't waste their grenades, but use one of them to push the rock up to the pillbox. Avoiding the crab, send your other grenadier to join him and use them both to attack the pillbox from behind the rock. Once this is accomplished, send in your other troops and use a foot soldier to take over the pillbox. Lure the rest of the enemy troops into range of your pillbox and destroy them, then send your foot soldiers up and around the castle, then to the right of the enemy base and down to attack the other pillbox from the right. When this is done use a truck to get the pod and return it to your base, again being careful to avoid the crab.

BATTLE 33

First, load your flame-thrower and a foot soldier onto your transporter and send them to attack the enemy missile launcher. Reload them onto

continued overleaf ➡

Helping Hands

FUTURE WARS

In Future Wars I'm dressed as a monk outside the castle entrance but I don't know where to go next. Can you help me?

Snake Byte (?!)
Market Weighton

Well Snake (ahem). Once you've got your habit on, head to the monastery and walk round the room in a clockwise direction – as the rest of the monks are doing – and in the first room to the left, talk to the monk. In the first room to the right, read the messages. Then return to the first room to the left and the monk should have gone and you can take the cup.

Now, exit and head to the top room and operate each barrel until you find a full one to use the cup on. Walk to the room on the right and use the full cup on the father and then examine him and help yourself to the remote control device which you can use on the piece of furniture. Take the magic card and exit. Walk to the top room and use the remote control on the barrel on top of the ladder. You're on your own from there...



COOL SPOT

Do you know any cheats for Cool Spot?

Chris Wignall
Appleby



Yes. Oh, you want them? Oh alright: during play on the title screen, press P to pause the game and use the joystick to enter the following sequence:

Left, Down, Right, Fire, L, D, R, Up, F, L, D, R, U, F, D, R, F, F, U, D, L, R, F

The game should now unpause and if you use the following keys you can do the following things:

- **F10** Completes the current level.
- **0-9** Skip to the corresponding level.
- **Z** Lets you move Spot anywhere on the map.
- **_** Slows down Spot after you've pressed Z.
- **=** Speeds up Spot after you've pressed Z.

Bear in mind that when you're entering the joystick sequence, make the move and then let the joystick centre again before entering the next move in the sequence.

Or you can try the following:

L, D, R, F, L, D, R, U, F, L, D, R, U, F

Now press P to unpause and you will have completed the level.

Or:

L, D, R, F, L, D, R, U, F, L, D, R, U, F, D, R, F, F

Now press P to unpause and you will have completed the level and entered the bonus game.

← the transporter and return them to base. Send a foot soldier to attack the pillbox from the small gap just to its left, then take it over. Finish the level by luring the rest of the enemy towards the pillbox.

BATTLE 34

Forget about flying troops or transporters, just select grenadiers and foot soldiers. Get all your troops in a nice tight formation and send them up the map, parallel to the right hand enemy pillbox. Storm the pillbox, you'll lose some troops but who cares? They're expendable. Take over the pillbox, let it wipe out most of the enemy troops and then lure the rest of them towards it. You can then finish the level quickly by taking over the left-hand pillbox and setting it to attack the enemy base.

BATTLE 35

Protect your base and let them come to you again. Move your troops into a tight formation in the narrow passage just above your base, send out foot soldiers to lure the enemy towards your main forces, then attack the pillboxes from above. Next, retrieve the pods to complete the level, remember to look after your trucks – if they die you can't finish the level.

BATTLE 36

Very difficult to explain without drawing a diagram, but I shall try. After killing enemy troops that attack your base, send your troops (one at a time so they don't get tangled up with each other and get shot by the pillbox) to the bottom right of the map. Next use a foot soldier to push the rock up towards the crab. When the crab stops moving, take out any enemy soldiers that may be lurking nearby. To take out the pillbox further up, skirt your troops one at a time around its right side, to get above it to the left. Position your trampolines so your troops can get to the anti-aircraft gun, skirt them around the right hand side of the map so they don't get killed, then use the trampolines to send them into the enemy base to take over the two pillboxes. Wipe out the base to finish.

BATTLE 37

Start by protecting your base from the first couple of attack waves that the enemy will send against you, then use foot soldiers to take out the mines. Make sure that your troops are in a good state of repair and then wipe out the rest of the enemy. It's very important at this stage to keep an eye on your mine layer and the truck; if either of them are destroyed you will not be able to complete your mission. Your next move should be to use the truck to retrieve the pod and then the mine layer to blow the prison gate. To finish the level send the P.O.W. back to base.

LOBSTER BOSS

LEVEL 3, BATTLE 38

Click on one of your troops then use the converge icon to group them all together. Send one of your troops to a far corner of the map, away from the enemy. By keeping this troop selected after the rest of them have started attacking the lobster, you can use the converge icon to send them running towards him whenever the others run into trouble.



> **"Next storm the pillbox, you will lose a few of your troops but who cares? They're expendable."**

LEVEL 4

BATTLE 39

Send two troops immediately to take over both pillboxes, let the rest of your troops eliminate the forces that he will send against your base, then lure the rest towards the pillboxes.





A couple of Furfurian grenadiers prepare to wipe out some unarmed trucks while the Klutes hit their base in an Armageddon-induced frenzy. The Furfurians are never a race to leave their base unguarded however.

BATTLE 40



Protect your base initially then send troops round the top of the maze, shooting enemy troops as you go. Next send them into the maze one step at a time, in small groups so they don't get tangled, killing anyone you find. The green block must be pushed out the way before you can send a troop to rescue the prisoner. Send the prisoner back to base, going around the top of the map if the enemy pillbox is still functioning.

BATTLE 41

Protect your base and wait for the enemy. Some will be killed crossing the car track. Push the block to the bottom right of your base, onto the track, then wait for the cars to run into it. Send all your troops to the right or left of the map, avoiding the pillbox which can fire in all directions, then down to the bottom and finally Armageddon.



The Furfurians gather for an impromptu game of draughts. The Klutes are off playing chess.

BATTLE 42

Don't worry about moving blocks, just protect your base and wait for them to come to you, wasting the enemy's grenades and repairing your troops as needed.

BATTLE 43

Stay and protect your base and let the enemy soldiers push the block onto the car track. Once the first wave of troops has been wiped out, attack the ones guarding the prisoner while using one of your foot soldiers to free him, and send him back to base. Ignore the troops that the enemy has guarding his base.

BATTLE 44

Carefully send both your trucks upwards across the track, then to the right across the track there. Use your tanks or other troops to block the path between the enemy trucks and their base. The enemy trucks will try to go around your vehicles into the

path of the cars on the track and get themselves wiped out. Get the

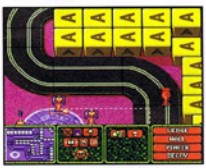


cargo pods and return them back to your base.

BATTLE 45
BE VERY CAREFUL! That's all.

BATTLE 46
Forget about tanks for this level, you need to move quickly. Firstly, you must move your troops straight to the top of the map using any objects you find to protect yourselves from pillboxes. Immediately attack the topmost pillbox from above, ignoring the enemy troops, take it over and direct it to attack the missile launcher. You must do this very quickly, before the missile launches or you'll lose. The rest is relatively easy, rescue the top left P.O.W. then send your remaining troops to attack any more enemy troops that may be left, send the P.O.W. down through the top of the maze with another footsoldier, to rescue the other P.O.W. inside the maze, then send both P.O.W.s back to base to finish the battle.

BATTLE 47
Move your troops at least half a screen away from your base to protect them from kamikaze attacks.



This would be so much easier if your troops didn't get wiped out by Scalextric cars all the time…

When the main enemy invasion force arrives, retreat and wipe them out quickly before they destroy your base. Repair your troops and wipe out the rest of his army.

BATTLE 48
Send a foot soldier to the enemy base, carefully avoiding cars when crossing the road, then retreat him. If you're lucky, most of the enemy will be wiped out crossing the tracks. If not, your troops should be able to destroy them and rescue the P.O.W.s.

BATTLE 49
Move your troops along the inside lane of the track, (the cars run around the outside). When you get near the enemy base, leave most of your troops behind and send one fast troop in, then back to your main forces. Try to lure the enemy into the path of cars to wipe them out and use your troops to take out the rest. Destroy the base to finish the level.

BATTLE 50
Protect your base from the first wave of enemy troops, making sure to take out the flame-thrower first. Try to save grenades for the flame-thrower inside the maze. Next take out the two pillboxes, attacking from above, though don't get too close to the flame-thrower near the left-hand one. Take over the left hand pillbox and set it onto the flame-thrower straight away and leave it to wipe out the rest of the troops in the area. Once done, send any grenadiers into the maze to lob grenades over the wall at the flame-thrower inside, return all of your troops to base and carry out necessary repairs. Send a footsoldier over the car track to lure enemy troops back to your main forces at base. Eliminate any troops that the enemy has left, then retrieve the pods to finish the level.



"Try to lure the enemy into the path of cars to wipe them out and use your troops to take out the rest."

DINO-BOSS
LEVEL 4, BATTLE 51
Send your troops to battle in groups of four and it should be quite easy. Keep one troop separate from the rest and constantly selected, so you can use the converge icon to get the rest of your troops out of trouble.

LEVEL 5

BATTLE 52
Don't use the tank for this level, just select the flame-thrower, grenadiers, a foot soldier and a trampoline. Send all your troops to a point where they're parallel with the left hand pillbox, then charge it. You'll lose a couple of troops, but you can afford to sacrifice a few. After repairing any damaged ones move them to the bottom of the ramp and attack the tank there, then attack the car that will come towards you and again, send any damaged troops back for repair. You must have at least four foot soldiers for the next part or you won't manage this level, and you must also have used up all your grenades and all the flame-thrower's fuel (if he's still alive) so you can use your troops to take over the pillbox. Use the trampoline to send the footsoldiers up onto the edge next to the bread bin, then use them (one at a time) to take over the pillbox next to the battleship. You'll lose all of your troops doing this unless you are very quick with the forced fire option (repeatedly clicking on the pillbox then on the attack icon and then on the battleship).

BATTLE 53
Don't use any vehicles for this one, select grenadiers, footsoldiers and a trampoline. Use the trampoline to send a foot soldier up to take over the pillbox near your base and use that to wipe out the enemy units that will attack your base. Next move the trampoline down the map and use it to move all your troops to the next raised level. Attack all enemy units you meet.

BATTLE 54
Send all your troops and both trucks up the map then across and down to the bottom of the ramp. Destroy the enemy tank and truck that are heading for the ramp, retrieve the pod and return it to base.

BATTLE 55
It's best to play this level with the game speed set on slow. Forget using the tank in your troop selection, use bugskis and grenadiers. Firstly move all your bugskis diagonally up and left of your base a little way so that the enemy bugskis' fire will be absorbed by your base. Leave one of your grenadiers where they first appear and send the rest of them down to the bottom left of the map, so that only one of them will use his grenades on the two enemy foot soldiers that will trampoline towards them. When they've both been wiped out and you've taken care of the enemy bugskis, send all of your grenadiers to the right, just beneath the battleship and use the forced fire technique to use all their ammunition as quickly as possible before they get wiped out. Once all your grenades are gone, leave your grenadiers where they are to draw some of the battleship's fire and send your remaining bugskis into the battleship one at a time, sending them back for repairs as they need it.

continued overleaf ➡

Helping Hands

THEME PARK

In issue 100 James Blackwell wrote about a Theme Park cheat, the Michael one, that he can't get to work. Well, it's a Mark cheat and here's how to do it (this works on my A500, but I don't know about the A1200, and it only works at the very start of the game):

In the player details, enter your name as Mark Lamport and your nickname as MarkL. In the game, press C for cash, Alt and Z for all the rides and an Amiga key and Z for all the shops.

Mark Weldon
Wigston

Cheers for that Mark.



My goodness it's easy to do rather well when you know the cheats.

AKIRA

I have had a game called Akira for years but I still can't get through the first level. Any cheats?

Rosemary Allcroft
Newcastle

No problems Rosemary, try these level codes and passwords:

Level Codes:
1 LETS RIDE
2 CAPTURED
3 TEDDYBEAR
4 CASTLES
5 IT STINKS
6 [illegible]
7 ESCAPE
8 BIG BLOB



Passwords:

SKIPLEVELS	Use the right mouse button to skip levels
LIVES	For infinite lives
SHIELD	For infinite shields
FUEL	For infinite fuel
COLLISION	For invincibility
ALL CHEATS	Enables all previous cheats

PUSHOVER (AGAIN)

Can you please print the code to level 100 of this game because I'm stuck on level 99?

James Baker
Chelmsford

Oh all right James (and you'll kick yourself here), because it's the same as the code for level 99): 44543.

LEND A HAND

If you're having trouble with a particular game or have a solution to a question in the magazine, don't keep it to yourself, write it down or send it in on a disk and we'll do our best to print it.
HELPING HANDS • Amiga Format
30 Monmouth Street • Bath • BA1 2BW



Now then, you want to get your little man into that pillbox on the shelf. Except you forgot to equip yourself with a trampoline. Doh!



BATTLE 56

No advice really needed for this one, just protect your base for a while, try not to waste grenades, then give them a good kicking.

BATTLE 57

This is another level that needs to be played on slow speed, unless your name is Data and your bloody mouse works (sadly I'm not and mine didn't). First, immediately move your troops to the right where the two movable 'sponge barricades' are, ignore the two vehicles that are speeding towards your base and get your kamikaze past the sponge blocks without moving them. Next, push the barricades and close the gap quickly, set the kamikaze onto one of the enemy flame-throwers. Hopefully when he detonates he will take out all three of them. Wait for the second wave of flame-throwers, keeping the barricades in place and wipe them out. Get your troops back to base quickly to take care of the two cars that are attacking there. Carry out any necessary repairs and get your troops back to the barricades quickly. With a bit of persuasion you can re-open the barricades and send a footsoldier towards the enemy base to lure the last couple of flame-throwers back towards the barricades. Close the gap quickly and you should have enough grenades to finish them off, if not, be very careful.

BATTLE 58

Don't bother with the kamikaze for this level, use all the grenadiers and make up the rest with bugskis. First move your grenadiers up the map near the battle ship and send them all in to attack it. Use the forced fire option to speed up their attacks, then move all the surviving grenadiers (normal footsoldiers are now useless) to the right and use them to attack any enemy bugskis in range. Use one of your bugskis to lure as many of his as possible towards your base, one at a time as time allows before he begins his main assault, then wipe out his remaining forces.

"Easy level, no special tactics needed, just go round killing the little buggers."



Eek! The Klutes' nice shiny new bugski's get attacked while they're still hanging around their base. Things don't look good.

BATTLE 59

Fairly easy level this one if it's done quickly. Send your troops to the right and take out the bottom pillbox, ignore the one above it – you don't need to go near it. Next take out the enemy flame-throwers at the bottom of the ramp with your kamikaze then send your troops up the ramp to the higher level and position your flame-throwers before the barricade, so they can fire through it and take out the three enemy soldiers on the other side. Push one of the barricades up to the pillbox and position your grenadiers behind it so they can take it out, send your troops to the left and down to the missile, taking out any enemy troops you see, and ignoring the enemy base.

BATTLE 60

Wipe out the enemy forces on the floor level, though give the battleship a wide berth, it may shoot the P.O.W. while trying to hit your troops. While you are doing this the enemy forces on the upper level will be grouping around the battleship, you can actually take these troops out from the floor level on the left hand side. To do this, group your footsoldiers next to where they are wandering around to the left of the battleship. You'll be out of range here, which is why you must do this on the left side. The idea is to keep one of your footsoldiers selected and standing



next to the enemy and just keep clicking on the converge icon to hold your troops in place so they won't go running off trying to attack them from a better position. Next attack the pillbox after carrying out repairs on your troops. Rescue the P.O.W.s, the one near the battleship needs to be evacuated quickly before it gets wiped out. Don't try to attack the battleship – you can't reach it.

BATTLE 61

Easy level, no special tactics needed, just kill the little buggers.

BATTLE 62

This is another level that needs to be played on slow speed. Sacrifice your flame-thrower to take out the first kamikaze that attacks your base, (away from the rest of your troops and base). Next, move all your troops away from your base and let the second kamikaze through without attacking it, your base will take some damage but it can take it. Use your vehicles and normal footsoldiers (not grenadiers) to take out the enemy grenadiers when they get to you. Take out the four enemy flame-throwers, carefully using your grenadiers one at a time from a distance, then use a footsoldier to push the sponge barricade across the cooker top and under the battleship which will carry on trying to shoot at the troop you use to put the barricade in place. Use your grenadiers to destroy the battleship to finish the level.

BATTLE 63

You must be very quick on this one. It's best to start the level with the game speed turned down. Get a fast vehicle and find the missile launcher before it takes out your base. Destroy it. Send three cars round to the bottom of the ramp and your grenadiers to stand on floor level to the left of the launcher. Next send a fast car up to the flame-throwers and



Believe it or not, this is the very end of game boss. He fires deadly little plastic ducks too. Gulp.

fire a shot at them. Send him straight back to base for repairs to lure them away from the launcher, then wipe out the launcher and the two enemy grenadiers that are there. The rest of the level is easy as long as you give the pillboxes and the battleship a wide berth.

KITCHEN DUCK BOSS
LEVEL 5, BATTLE 64

The best way to deal with this one is to scatter the troops at the start of the level, then send your troops in to attack the boss, one or two at a time. This makes moving your troops out of his way a lot easier, and ensures that you don't have troops fighting amongst themselves, trying to find an unoccupied place to fire from. It also means that troops won't become suicidal and place themselves right in the path of the duck whenever he decides to charge his attackers. Good luck and remember that *Tiny Troops* is still available from Vulcan (01705 670269), costing £17.99.

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PD Select

If Public Domain is a trailer park, Dave Cusick is a tornado... or something similarly Coupland-esque.

OG! THE CAVEMAN AGA

By:..........................David Parsons
Ware: ....Licenceware
PD Library: ....5th Dimension Licenceware
No of disks: ....One
Price:..................£3.95 + 50p p&p

When the Amiga ruled the home computer roost, graphically gorgeous platform games were ten-a-penny. Unfortunately the designers of such games were among the first to desert the machine, opting instead to churn out scores of identical offerings for the likes of Sega and Nintendo.

Consequently, whereas four years ago another platform game might not have stood out from the crowd, a silver lining now resides in the cloud that hangs over the Amiga games market. The real gems today are not in danger of being lost among lesser products, from companies with more marketing clout. *Og!* is a cracking platformer, and if it had been overlooked because the Amiga market was flooded with similar, yet inferior, products it would have been a tragedy.

I'll get my one gripe out of the way before I go on to praise *Og!*'s many excellent qualities. The music is extremely irritating – in fact, it is nothing short of dire. You would be strongly advised to stick a decent CD on before loading it up, and to reach for the volume control the moment the title screen appears.

The graphics, the animation, the responsiveness of the controls and indeed everything else about the game is far above such criticism however. *Og* himself moves around the scrolling levels with superb fluidity, and the stone-age background scrolls smoothly past in parallax. The wide variety of baddies *Og* meets on his journey are also colourful, cute and well-drawn.

Action-starved gamers will love *Og!* – it serves as a welcome reminder of why the Amiga earned the reputation of being the best games machine of its era. It's challenging, slick and hugely enjoyable.





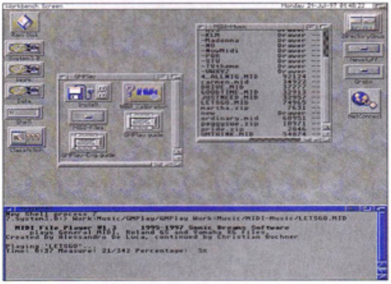
OG!: **Og dons his loincloth and smoothly negotiates some cadburys chocolate flakes...**

GMPLAY V1.3

By: Alessandro de Luca & Christian Buchner
Ware: ....Giftware
and

GMPLAYMUI V1.2

By: ....Carlos Mayo
Ware: ....Postcard
Both available from:............Aminet (mus/midi)





GMPLAY 1.3: Superb quality sampling – *GMPlay* makes it possible to play standard MIDI files on your Amiga.

I have a friend in the recording industry who tells me that Atari STs are still very much in evidence in some studios, although they are gradually losing ground to the all-conquering PC. It's strange that the Amiga never made a bigger impact on the music industry, because its internal sound hardware was (like so many of its features) way ahead of its time.

The ST surely only enjoyed the success it did in the music field because it happened to feature MIDI in and out ports as standard. With Shareware sequencing software plentiful, anyone with a MIDI keyboard could make use of the vast array of MIDI files available both commercially and in the Public Domain. For a long time, Amiga owners used to need a suitable

Continued overleaf ➡

adaptor and some expensive commercial software to make use of these files. Nowadays you don't even need a synthesiser, thanks to the wonderful *GMPlay*.

GMPlay is a software emulation of a General MIDI keyboard. (GM is a standard whereby specific types of voice are assigned the same number on all compatible keyboards, so that a data file containing MIDI song information will sound more or less the same on any keyboard which supports it, regardless of the manufacturer). With *GMPlay* it is possible to play standard MIDI files (which nowadays proliferate on the Internet) on your Amiga, using sampled instruments supplied with the program.

First things first; *GMPlay* is huge. At over 6Mb, it's not the sort of program you'll be wanting to download lightly. It's also CLI-based, so it does not score too highly in the user-friendliness stakes – which is where *GMPlayMUI* (or one of the other *GMPlay* graphical user interfaces available on Aminet) comes into its own. With its archive weighing in at a slightly more compact 14K, it's as well to also download this front-end for *GMPlay*, as it should take much of the pain out of using that powerful piece of software. It also adds features such as the ability to play an entire directory of tunes in a random order.

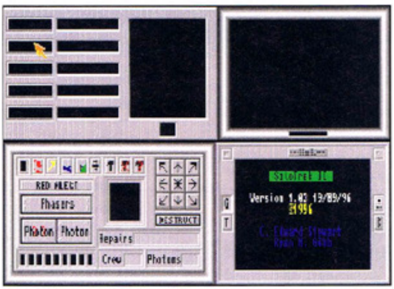
Although *GMPlay* will run on a standard '020 Amiga, you might find that it stutters its way through more complicated pieces of music when you are also running other programs. It is possible to vary the frequency at which the samples are played, (the default frequency is 28.867KHz) and using higher values, produces higher quality sound reproduction, but a slightly more powerful Amiga is essential for this. With an '040 machine it should theoretically be possible to replay tunes at 44.1KHz – the rate used by CD players – but this really only makes sense if you have a collection of sounds which were sampled at high frequencies.

Even at 28KHz, the output quality is nothing short of superb, easily putting to shame the output of, for instance, the Windows95 MIDI file player through a standard PC Soundblaster card. Obviously MIDI music doesn't always sound quite as tuneful as it would through a real keyboard, but this is definitely the next best thing.





SOLOTREK 2: It's worse than that – he's dead Jim, etc, etc, etc...



SOLOTREK 2: The intrepid search continues to boldly go where no Amigan has gone before. Or something like that anyway.

SOLOTREK 2

By:..C. Edward Stewart & Ryan M. Gibb
Ware: ....Freeware
PD Library: ....OnLine PD
No of disks: ....Two
Price: ....£1.50 + 75p p&p

To an ordinary, well-adjusted human being such as myself (comparatively speaking, anyway), the whole Star Trek phenomenon is nothing short of flabbergasting. In the beginning there was the original, tacky, low-budget sci-fi series from the mid-sixties with astonishingly trite storylines, tedious, one-dimensional characters, recycled sets and highly dubious moralistic messages.

Curiously it found mainstream success and has since been dusted down, repackaged and re-released in a variety of different guises, with increasingly massive budgets and taking itself ever more seriously. In the process, any element of fun which the original series might possibly have possessed has been well and truly discarded in favour of ever more ridiculous costumes, predictable storylines and relentless Trek-merchandise tie-ins.

It saddens me deeply that so many members of the human race take the whole Star Trek universe so seriously. They attend Trek conventions, dressed as their imaginary heroes. They collect pointless, overpriced items of Trek memorabilia with alarming gusto. They even produce horribly detailed strategy games and, along with computerised *Klingon Language Guides* and the *Star Trek Encyclopedia*, send them to poor saps like me for evaluation.

In *SoloTrek 2*, your objective is to map out the entire galaxy, dealing accordingly with any Romulan, Klingon or Federation ships you encounter along the way. It's an incredibly complex and involving game which is going to demand a good deal of time and effort from anyone seeking to really get to grips with it. If you persevere though, in the long run, it's the sort of game which could prove infinitely more rewarding than a straightforward shoot-em-up.

There are a whole host of gadgets to be clicked on as you navigate your way around the galaxy. In true Trek style there are five main systems on board your ship (shields, impulse engines, warp drive, phasers and photon torpedoes) between which power can be allocated, so if you're a true Trekkie you will be able to blurt out such tired clichés as "Warp factor ten, Scotty" with alarming regularity.

I must confess this really isn't my sort of game but, in saying that, I can appreciate that there are some who will find it wholly absorbing and enjoyable – and curiously, they might not even be Star Trek fans.

AQUANAUT

By: ....Phil Ruston
Ware: ....Licenceware
PD Library: ....F1 Licenceware / Saddletramps PD
No of disks: ....One
Price: ....£3.99 + 50p p&p

When I was a lad, *Aquanaut* was a newly-devised swimming scheme whereby kiddies attended lessons every day for a week or two in order to earn themselves fancy badges. At least, I think it was called *Aquanaut*. It could have been *Aquapack*. I think I'm losing my memory in my old age...

As with *Og! The Caveman*, *Aquanaut* is the sort of high-quality game that used to proliferate commercially in the heyday of the Amiga gaming scene, but that we're now, for the most part, deprived of. It's a submarine-based scrolling





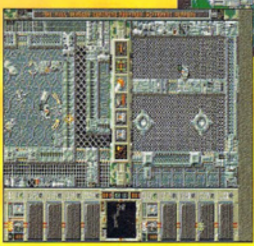
AQUANAUT: Face the perils of the deep as you pilot the "Shark" super-sub.

PD selection of the month

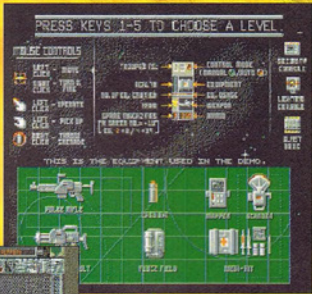
XENOMORPHS II

By:	Aidan Boustred
Ware:	Shareware
PD Library:	Aidan Boustred
No of disks:	Two
Price:	£7

If I was Ridley Scott, I'd be extremely pleased with myself. His career has been an extremely successful and impressive one. (His brother's career hasn't been bad either; among other things, he gave the world the infamous Dvorak-accompanied Hovis ad). Ridley's two most famous films, *Blade Runner* and *Alien*, have both inspired many imitators – and not just in the motion picture world, either. Games Workshop's *Space Hulk* is probably the most famous example of Alien-esque, H. R. Giger-influenced imagery, and its GeneStealers had a remarkably similar life cycle to Scott's aliens. The extra-terrestrial *Xenomorphs* are now following in the GeneStealers' alien footsteps.



From the tremendously atmospheric introductory screens onwards, it is clear that a great deal of time and effort has been spent making *Xenomorphs 2* look and feel polished and professional. Your task is to guide a squad of marines through a series of missions, and prior to each mission a briefing screen sets out the relevant objectives and any special features. Then it's on to the equipment screen, where you can select the weaponry and gadgetry you consider appropriate, before the action commences.



You're in deep space with a shedload of ammunition and a marine core to order about.



The game is controlled using the mouse and the joystick in tandem, and although there are a huge array of special moves and actions at your disposal, the control mechanism is extremely intuitive and it won't be long before you have your squad opening and closing doors, operating lifts and computers, and even performing complex multi-directional auto-firing manoeuvres. The in-game graphics are functional and neat, and capture the gloomy mood well. A small section of the level currently being explored is displayed in a scrolling window in the centre of the screen, around which are dotted various icons and indicators. When *Xenomorphs* is played in its two player mode, there are two simultaneously scrolling windows on the screen – and they scroll surprisingly smoothly considering the technical limitations of AMOS, the language used to program the game.

There is a freely distributable demonstration version of *Xenomorphs 2*, which includes five missions designed to help train you in controlling your squad of marines. The full registered version costs £7, and includes a printed version of the on-disk manual. The author is also planning a series of mission disks for the future, which should add to the longevity of this excellent strategic blaster.

shoot-em-up which absolutely oozes playability.

You must pilot The Shark, a deadly super-submarine, on a dangerous mission to investigate why the advanced underwater base 'Aquasphere 1' has suddenly stopped responding to radio signals. The Shark is equipped with a pulse laser as standard, but as you might expect there are a variety of power-ups scattered around the levels, and once you have collected some of these all manner of oceanic nasties can be annihilated with the minimum of effort.

The graphics are stylistically reminiscent of those in various Bitmap Brothers hits such as *Gods* and *Magic Pockets* – the metallic surfaces, the organic and robotic foes and the subtle backdrops all combine to lend *Aquanaut* a really accomplished look and feel. With its responsive and intuitive joystick control system, and several levels of increasingly challenging blasting action, *Aquanaut* is a game which arcade fans will absolutely love.

AGASSM V7.4

By:	*Paul Vernon*
Ware:	*Shareware*
Available from:	*5th Dimension Licenceware*
No of disks:	*One*
Price:	*80p + 50p p&p*

Although the *AGA SlideShow Maker* (to give it its full title) was unsurprisingly originally designed to help create AGA-only slideshows, it now functions on non-AGA machines too, so long as they have at least version 2.0 of Workbench. It can display IFF pictures (although not 24-bit ones, unfortunately) and IFF (anim 5) animations while playing Med or Soundtracker modules or IFF sound samples.

Perhaps the most powerful feature of *AGASMM*, however, is its ARexx port. Through this, *AGASSM* can effectively utilise other viewers and players; for instance, as the author points out in the accompanying AmigaGuide file, although *AGASSM* can only handle 4-track Med modules itself, by calling *OctaMEDplayer* via that program's ARexx port, it would be possible to incorporate 8-track Med modules into your slideshows.



A variety of effects are available, making it possible, for instance, to scroll one image off the screen and another on, or to tile an image onto the screen. The demonstration slideshow supplied on the disk demonstrates just what *AGASSM* can produce in a relatively short space of time – providing you already have the graphics and music modules ready, of course.





AGASSM: Mad for audio/visual experimentation? Cough up a couple of quid and register through 5th Dimension Licenceware.

Continued overleaf ➡

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Other good PD libraries

(If you don't have access to Aminet, there are several PD libraries that now offer download services at reasonable prices.)

This version of *AGASSM* includes a requestor which pops up regularly and reminds you that you haven't yet registered. If you use the program regularly you can register for £2.95 plus 50p postage through 5th Dimension Licenceware. For artists and musicians who really cannot be bothered writing their own display programs, there is probably no better solution than purchasing this excellent piece of software.

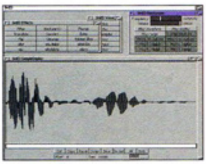


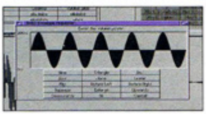
AGASSM: Claudia with not much on at all, actually.

SINED V1.15

By: ....Jarkko Vatjus-Anttila
Ware:.............................Shareware
Both available from: ....Aminet
(mus/edit)

There are a whole host of sample editing programs available on Aminet, but if truth be told, the vast majority of them are woefully inadequate. Some are reasonably powerful but atrociously programmed, and therefore crash sporadically, invariably just after you've masterfully manipulated a sample so as to produce exactly the desired effect.





SINED: Enables you to add echoes to music and produce your own drum fills.

Some are as solid but lack all but the most basic of editing facilities, not having a single special effect anywhere in sight. Still, others are stable and powerful, but have over-complicated interfaces which make accessing features nearly impossible.

Fortunately *SinED* laughs in the face of convention, and successfully combines power with reliability and ease of use. It features what the author accurately describes as a "powerful arsenal" of editing tools, and allows you to listen to the sample being edited whenever you wish to do so – a seemingly obvious feature, but one which far too many similar programs have, bafflingly, lacked.



SCAVENGER II: As a hungry scavenger, salvage what's left of *Pinnacle 2* and scarper. More aliens await a blasting...

SinED also has a few effects which I haven't come across before. It can calculate some of the most common waveforms, such as sine, enabling you to create some truly smooth sounding waves. In addition to the usual filters and boost, downsample and upsample effects, you can also blur or modulate a sound, add echo to it or apply one of five waves to it. You can even draw your own sample waveforms.

There is also a drum machine which makes it possible for you to produce your own drum fills for use in tracker programs and the like. This part of the program could also theoretically be used to mix together up to eight different samples, thereby enabling you to create some totally new sounds within your favourite tracker.

With its intelligently designed Gadtools interface and its stunning variety of editing options, *SinED* is nothing short of a revelation for Amiga musos, who should start saving their pennies right away. The £15 registration fee will provide you with a version of *SinED* which is actually able to save the results of your hard work...

SCAVENGER II

By: ....Ben Wright
Ware: ....Licenceware
Available from: ....F1 Licenceware / Saddletramps PD
No of disks: ....One
Price:..................£3.99 + 50p p&p

Scavenger II owes more than a little to *Asteroids*, but it's sufficiently different to be more than a mere clone. You control a scavenging spacecraft that must move around an asteroid-filled quadrant of space, blasting rocks and collecting various gems which have been scattered by *Pinnacle 2*, a recently destroyed freighter. You can also collect power-ups to increase the effectiveness of your laser beam or replace it with more lethal armaments, and fuel canisters to restore your depleting fuel reserves.

The graphics aren't at all bad, with some nice shading effects and atmospheric space-age backdrops. Although the scrolling doesn't feel as smooth as it might be, the action is engaging enough to keep your interest level up. On later levels it becomes increasingly frantic, so you'll need some quick wits and a responsive joystick at your disposal.

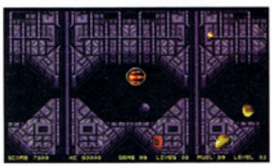
While you blast there is a slightly quirky tune warbling away in the background. This can rapidly get a little irritating but it can be turned off from the options screen, from where you can also set your initial number of lives and (in true console game fashion) test the sound effects.

There are twelve levels to explore and numerous alien spaceships to destroy, with some levels featuring enemy guardians to blow away. *Scavenger II* looks good, plays well and offers sufficiently challenging gameplay to appeal to the most proficient of *Asteroids* veterans.





SCAVENGER II: More than just a clone of *Asteroids*, you understand.



SCAVENGER II: Fit for the blast-em-up veteran's scrutiny.

Sci-fi video COMPETITION!

Win a set of sci-fi videos including:

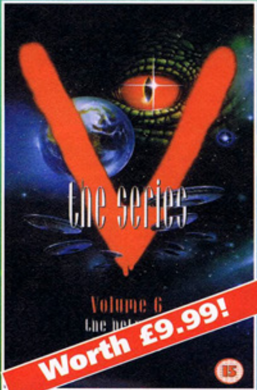
* Babylon 5 Volume 25
* V The Series 6
* Outer Limits – The new series Vol 10

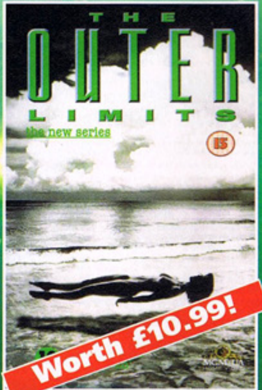
Warner Home Video have kindly given us **5 sets of 3 videos** and if you'd like the chance to win a set just answer this simple question:

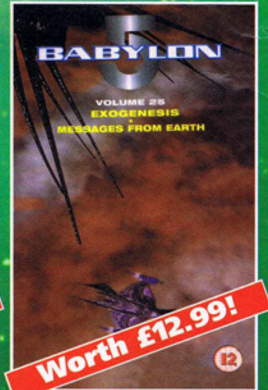
"What is the name of Babylon 5's fighter ships?"

Send your answer on a postcard to:
Sci-fi video giveaway,
30 Monmouth St,
Bath, BA1 2BW

Remember to print your answer clearly and put your own name and address on the card. Multiple entries are not allowed.







● All these videos have just been released as part of Warner Home Video's Beyond Vision sci-fi and fantasy retail video range. Babylon 5 can be seen on Channel Four every Wednesday at 10.45pm, and Outer Limits new series can be seen on BBC 2, Sundays at 9.30pm.

Rules:
1. No employees of Future Publishing or Warner Home Video are eligible for entry.
2. No cash alternative is available.
3. The closing date for all entries is 17th October 1997.
4. Winners will be notified in issue 105 of Amiga Format and by post.

In-depth reviews of hardware and software that you can trust

SERIOUSLY AMIGA



Apparently, the windfalls generated from building societies changing to banks, and from national lottery winnings, has promoted an upsurge in the amount of money people are spending on their machines.

Amiga dealers have reported a better summer this year than many in memory and, with the plethora of really good new software and hardware products coming out, it's not very surprising.

Hopefully, this trend will continue through the autumn until the traditionally hectic time around Christmas. If that happens then it'll really prove that our favourite machine is still as alive as ever.

Ben Vost

AMIGA FORMAT'S REVIEW POLICY

is very simple. *Amiga Format* is staffed by some of the most experienced Amiga users in the world and what we say goes. OK?

WHAT OUR REVIEW SCORES MEAN

90+%	The crème de la crème. Only the very best, most versatile and effective products are awarded an *AF* Gold – the most highly prized rating there is.
80-89%	These products are very good, but there are minor flaws or areas that could be improved upon.
70-79%	Not a bad product but quite possibly one that needs a serious update.
60-69%	Average products with somewhat limited features and appeal. Products in this category tend to be flawed.
50-59%	Below average products which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality products with major flaws.
Under 40%	The absolute pits.

MicroniK Amiga



Ben Vost takes an eager look at the first new Amiga to enter the office in more than four years.



The Infinitiv A1500 in all its glory. The three Amiga manuals you see are all you get, apart from the manual for the tower.

The reason it's not yet time for a review is that the tower we've got, (the one shown in the pictures), is still a beta. It's the only one in the country at this time and it's here to have a look at, but no more.

MicroniK obviously weren't aware of Commodore UK's odd decision to relaunch the Amiga 2000 with a new name – the A1500 (PHC or Personal Home Computer if you want to give it its full name) back in 1989. So MicroniK are now also giving us a machine called the A1500, but this time it has a 68020 as standard, a SCSI controller as standard and most importantly for current A1200 owners, ZorroIII slots as standard.

The tower also has a CPU slot for a 4000-type accelerator card and although you can still use your A1200 accelerator, it has to be of a certain type to be sure to work. A1200 cards are unlikely to be supported in future hardware upgrades, since the whole point of putting a 4000-type CPU slot on the board is so that you buy a Cyberstorm or similar. Likewise, MicroniK have told me that the SIMM slot found on the machine we've got will also be removed since most CPU slot accelerators tend to have rather a lot of room on them for RAM. However, one way or the other, you'll need to have some sort of accelerator to be able to use the ZorroIII slots. ZorroIII depends on the existence of at least an '030 processor.





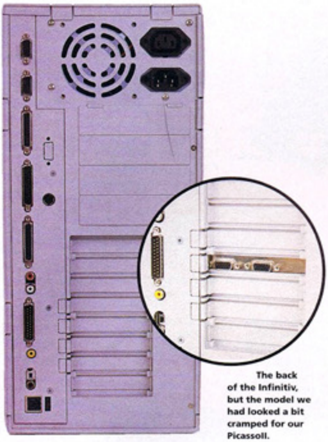
Spot the difference? One's empty the other's packed to the gills, but still looks roomy enough to house a family of four, their pets and granny.

BUILT TO LAST

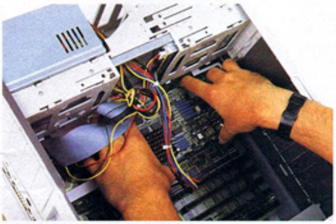
But let's take a look at the overall construction of the tower. If you get it from Blittersoft or your local dealer, and it comes ready fitted with all the bits you're ever going to need, or you buy the tower and all the bits and fit it as soon as you get it, I'd have no qualms at all about the sturdiness of the tower's construction. If, however, you're like us at *AF* towers and you spend your days opening up your machine and plugging things in and taking things out, I'm a little concerned that the plastic which the Infinitiv A1500 is built from won't stand up to the punishment. The tower isn't completely made of plastic – there is a steel cross-brace that goes from front to back and the A1200 is bracketed by a steel construction that goes from the top to the bottom of the tower, but all the same, there isn't the same rigidity that there is, say, in an A3000T. Then again, the Infinitiv A1500 doesn't weigh 4 tons like the A3000T does. It's all a trade off. Unless you're spending a fortune on your Amiga constantly – and who among us can afford to do that? – then the Infinitiv's plastic construction should stand up just fine to the everyday wear and tear of plugging in and removing cables from the back, turning on, and inserting and removing disks.

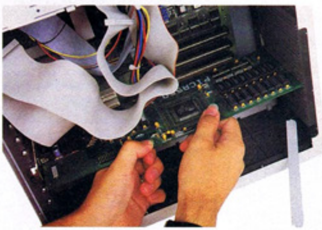
The rear-facing panels allow you to slip hard drives in and out as you need to.





The back of the Infinitiv, but the model we had looked a bit cramped for our PicassoII.





Fitting accelerator cards and Zorro boards into the Infinitiv is made even easier by the modular nature of the tower.

TELL ME WHY

So why get an Infinitiv instead of a secondhand A4000 or similar? The answer's there, but it's not as clear as it might be. While the A4000 has proven Zorro slot technology and the MicroniK as yet does not, you can easily come a cropper when you end up buying a secondhand A4000, if you're not careful. The main problem with old A4000s is the Buster chip in them. For one thing it possibly won't be socketted, meaning that you'll be stuck with that revision forever, barring a costly motherboard upgrade. Alternatively, if the Buster is socketted, you might well need to upgrade it – rev9 is the one to avoid, rev11 is the one you want and like all PLCC chips, they are a pain in the bum to change.

One of the other advantages the MicroniK tower should give is its additional slots. The Infinitiv 1500 comes with five ZorroIII slots as standard, as well as two PCI slots that have never seen the inside of an Amiga. The A4000 only has four and they are pretty cramped to boot. Another is the fact that the internal space on an A4000 is certainly lacking. There's room for two hard drives and a CD-ROM drive, but if you are a power user you'll still need external casing for your ROM writer, your DAT drive and your Zip. The Micronik tower fixes all that by being expandable. If you need more space for 5.25" bay devices like CD-R drives, simply bung a new unit on the top of your existing tower and bung the cap back on. 3.5" devices? No problem, just sling them under the ones already in the tower at the front and back. The parts just clip together neatly saving any hassle with screwdrivers and the like, and are designed to be modular.

Blittersoft are also planning to do software and hardware bundles for the Infinitiv range, with hardware options including hard drives and CD-ROM drives and possible software including *Wordworth 6 Office*, *Art Effect SE*, *PMPro* (V3), *NetConnect Lite* and other programs too. These may change, and fuller details will be made available prior to full release, expected during September. Of course, they are also the UK distributors for Village Tronic's Picasso II+ and PicassoIV graphics cards – the number one reason why people want Zorro slots these days – so getting one of these added to your bundle should be fairly standard.



Fitting one CD-ROM drive is easy, but what if you want a CD-R in there too? Simple, just add another bay.

EMULATION

The other thing that Blittersoft are well known for is emulation and Paul Lesurf at Blittersoft has told me that it's quite likely that they will offer a multi-platform version of the Infinitiv tower range, incorporating both Mac and PC emulation. Paul said, "We think that

I WANT MORE!

And more you shall have, since there are many additional component parts that have been designed for easy use with any MicroniK tower system. But don't turn the page if you haven't got a tower yet, since the parts we mark with a star are also useful for owners of other Amigas. Here's the complete rundown:

• SNAP-ON 3.5" AND 5.25" BAYS
These can be conveniently added as and when necessary, to give greater expansion capabilities. The 5.25" bays clip onto the tower top and the 3.5" bays fit internally under the floppy drive bays and the PSU.
5.25" snap-on bay £29.95
3.5" internal snap-on bay £11.95

• PCMCIA ADAPTOR
This allows internal fitting of PCMCIA device cables. MicroniK still recommend that in the case of SCSI interfaces, you should be using an internal version like the Blizzard SCSI instead.
PCMCIA adaptor £24.95

• TWIN FLOPPY CABLE
The A1200 cannot normally use two internal floppy drives. You can use this interface and cable, but you sacrifice the use of the external floppy port.
Twin floppy cable £24.95

• BLIZZARD SCSI ADAPTOR *
This adaptor converts the external 25-pin D-type plug on the Blizzard SCSI interface to a 50-pin IDC flat connector for internal use, allowing a standard ribbon cable to be connected to internal devices.
Blizzard SCSI adaptor £19.95

• EXTERNAL SCSI ADAPTOR *
This is basically the same interface, but in reverse. It connects the end of your internal 50-way ribbon cable to an external 25-pin D-type plug, giving you external SCSI connections.
External SCSI adaptor £19.95

• AUDIO BEZEL *
This offers two external phono sockets, which can be internally connected to anything giving an audio output. We're not quite sure what purpose this serves at the moment, and it seems that you'll still need to have a mixer connected to your Amiga, or have to keep

Continued overleaf ➡

GIMME THE SPEC!

The New Infinitiv Amiga towers are fully licensed by MicroniK from Amiga International. They are the only new Amiga machines granted permission to use the word "Amiga" on the tower.

Blittersoft will be exclusively distributing these towers in the UK, and the range will include three computers:

INFINITIV 1300

• Infinitiv Tower with Amiga 1200 motherboard and fitted floppy disk drive
• 880k Amiga Internal 150W PSU
• Separate Amiga keyboard
• Operating system OS3.1 / Workbench 3.1
• Handbooks

Price: £349.95

This is the entry level tower system, basically offering all the features of the standard A1200, but with the distinct advantage of built-in expandability, not seen with the A1200 desktop computer. The system can utilise all the upgrade components of the MicroniK range. The user can effectively purchase a system that can easily be expanded to ZorroII or ZorroIII, and can also incorporate a whole range of hardware not usually open to the A1200 user, such as internally fitted CD-ROM drives, tape streamers and 040/060 accelerators designed for use in a tower system like the Blizzard T/ERC range.

INFINITIV 1400

As per Infinitiv 1300 plus:

• 5 x Zorro II slots
• 2 x PC ISA slots
• 2 x PC PCI slots
• 1 x Video slot (optional)
• A1200 Accelerator pass-through

Price: £469.95

This system offers all the features of the A1300 computer, but has a ZorroII board already fitted. This allows the user to fit all manner of useful hardware, from graphics cards and multi-serial cards to network cards.

A simple pass-through allows standard A1200 accelerator boards to be fitted (this will however require an additional 5.25" snap-on bay to provide additional height).

INFINITIV 1500

As per Infinitiv 1300 plus:

• 5 x Zorro II/III slots
• 1 x PC ISA slots
• 2 x PC PCI slots
• 1 x Video slot (optional)
• SCSI-II interface
• A3000/4000 compatible CPU slot

Price: £599.95

This is the top-of-the-range system we have here, offering a very similar specification to the A4000 at a greatly reduced price. A fast SCSI-II interface is included on the new ZorroII/III board, and also an A4000-compatible CPU slot. This means that A4000-compatible accelerators (including PPC boards) can be fitted, providing full ZorroIII support for faster Picasso IV/CyberVision performance. It also allows the user to fit the generally faster range of accelerators previously enjoyed only by A4000 users.

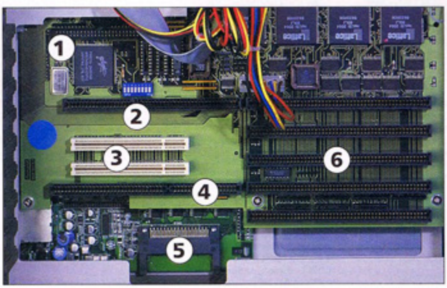
While this system is primarily designed for A4000 accelerator boards (users requiring only A1200 accelerator performance should stick with the Infinitiv 1400 system) it is possible to use some A1200 accelerator boards, but this sacrifices ZorroIII capability (ZorroII is unaffected), so is not recommended other than as a temporary solution until an A4000 accelerator is purchased.

Fusion will really blow people's minds. It's going to be so popular – even with Mac owners – since with a PicassoIV it out performs most Macs graphically and a PowerPC version is imminent."

We haven't tested the MicroniK tower fully yet so we can't say for sure that it will be a huge success. But with all the features and expandability it offers, perhaps the Amiga can move to a new level that people with A4000s, A3000s and A2000s have taken for granted – fast graphics thanks to RTG cards, 16-bit sound samplers, network cards, multi-port cards and easily expandable accelerators. With this new level of power (and professionalism), perhaps we might also see certain software companies taking the Amiga seriously once more.

SLOTS AND PORTS GALORE

1. Fast SCSI II port for all your SCSI peripherals. This only comes with the A1500.
2. The infamous optional video slot. It's only activated if you add a further part.
3. Two PCI slots ready to use, but you'll need a bridgeboard to give the Amiga access to them.
4. That ISA slot you need for the bridgeboard you need for the PCI slots to work.
5. Your A1200 PCMCIA slot awaiting its adaptor.
6. Five ZorroIII slots – the reason you'll be buying the Infinitiv A1500 in the first place, but they'll only work if you have a CPU slot-type accelerator.



I WANT MORE!

unplugging your audio leads to get both Amiga sound and the sound from this bezel.
Audio bezel £19.95

• VIDEO SLOT INTERFACE/CABLE
The video slot on the ZorroII and III boards that MicroniK sell doesn't actually work unless you have this bit. MicroniK say that actually having it on the board as standard would drive up costs and not everyone needs a video slot, but it is awkward to fit since you need to get down to the bare A1200 motherboard in order to fit it. All the same, if you are intending to get a PicassoIV, or a CyberVision 3D with the Scandoubler, or any other Amiga internal video hardware like genlocks, then you'll need to get this.
Video slot interface £39.95

• FRONT 5.25" TO 3.5" BEZEL
All this does is to convert a 5.25" bay to enable a 3.5" drive to fit and still look neat.
5.25"-3.5" bezel £14.95

• IDE HARD DRIVE CABLES *
Blittersoft can supply cables taking the 2.5" A1200 IDE interface to two 3.5" connectors, or one 2.5" and one 3.5" connector (44-pin – 2x40-pin cable or 44-pin – 1x44-pin + 1x40-pin cable).
IDE cables £14.95

• VGA MONITOR ADAPTOR *
Converts the 23-pin RGB connector on the back of the Amiga tower to a 15-pin SVGA connector.
VGA adaptor £14.95

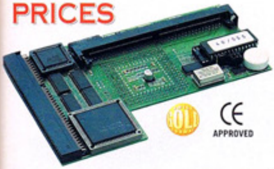
• AMIGA MONITOR ADAPTOR *
Converts the 23-pin connector on an Amiga-specific monitor to an SVGA 15-pin (to connect to most graphics cards).
Amiga monitor adaptor £14.95

• HIGH DENSITY FLOPPY DRIVES *
Internal drives to offer full 1.76Mb/880K Amiga or 1.44Mb/720K PC use. In addition, these drives need no software patches.
HD drive £54.95

• IDE 4-WAY ADAPTORS *
To allow four IDE peripherals to be fitted. Offers two 40-pin connectors.
IDE 4-way £19.95

If you've already bought an Infinitiv tower, or you want to upgrade your Infinitiv A1300 to a model with Zorro slots, you can add ZorroII slots to your machine for £149.95, and ZorroIII slots for £319.95. If you've already got ZorroII slots and you've decided that you feel the need for further speed, then you can upgrade your ZorroII board to a ZorroIII one for £249.95. Our suggestion, given these prices, is to start with the Infintiv A1500 if you can afford it.

NEW LOW PRICES



CE APPROVED

APOLLO 1240 25MHZ £139.95

APOLLO 1240 33MHZ £159.95

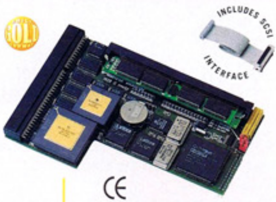
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NEW VIPER MKV 1230 OMB £139.95

NEW VIPER 1230 INC. 8MB £179.95



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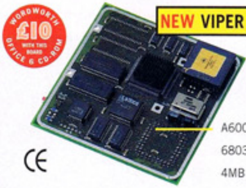
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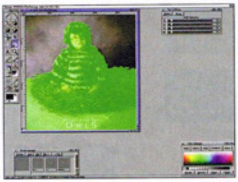
FAX 01234 855400

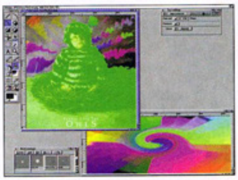
Art Effect 2

A new version with new functions, but is it at the expense of stability? Ben Vost is the man in the know.

The latest version of *Art Effect 2* has been a long time coming. In the time since I first saw it at the Cologne show a few years back, Haage and Partner have added new tools, new effects and new power to their art package, but it seems that this has been at the expense of its utility. I don't mean that it's become difficult to use because that's not the case – apart from some non-standard keyboard modifiers, *Art Effect* is simple to use and fairly fluid. What I do mean is that it is now difficult to get the picture you want because of bugs in the program.

Haage and Partner announce with pleasure that the external BGUI.library has been removed in favour of their own Storm Wizard library, and that the whole program has been rewritten completely in *StormC* instead of SAS C. But this has not turned out to be the masterstroke they thought it would be. Instead, it just makes both *StormC* and *Art Effect* look bad. There are numerous graphical bugs and problems when using the program, not to mention the fact that some of the loaders are incomplete (who's heard of an Amiga art package not being able to load IFFs properly?).





Masking makes compositing two pictures really easy. Just use the new pop-up in the window and select source and destination.

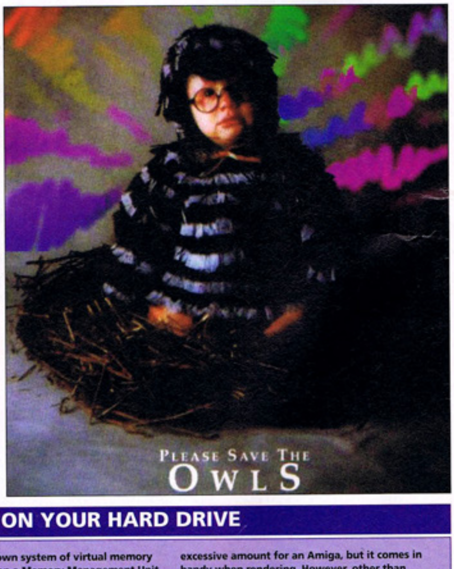
FIRST TIMERS

But to start with, let's discuss *Art Effect* for the benefit of those looking at it for the first time. *Art Effect* is a paint package along the lines of *Photogenics* or *TVPaint* rather than *Personal Paint*. It deals with 24-bit images, and actually has a slightly tough time dealing with pixel level editing of the kind that *PPaint* is so good at. What it excels at though is creating painterly effects, retouching photographic images and creating pictures designed to look real.

Because of its very nature, *Art Effect* is memory and processor hungry; a 24-bit picture takes three times as much RAM as its size in pixels (640 x 512 x 3 = 983,040 bytes) and shifting that kind of data around takes muscle. To get the very best out of *Art Effect*, ECS owners need not apply, even AGA struggles to offer pseudo 24-bit displays. What's really needed is a 24-bit graphics card. The Amiga is now blessed with several different models ranging from the extremely inexpensive PicassoII+, through the CyberVision64/3D to the top of the range PicassoIV. Any of these graphics cards is eminently suitable for working with *Art Effect* since they are all



The Airbrush effect used to create these is now much smoother.



MEMORY ON YOUR HARD DRIVE

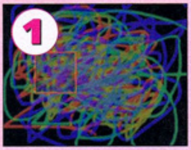
Art Effect uses its own system of virtual memory that does not rely on a Memory Management Unit (MMU) to work. It uses virtual memory for the layers feature and undo function and requires it to be available. If, quite rightly, you don't really like the idea of a program paging constantly to your hard disk while you are using it, you can switch off virtual memory but then you have to do without these features. On my machine, I have a total of 82Mb RAM. This might seem like an excessive amount for an Amiga, but it comes in handy when rendering. However, other than *Lightwave* there are now few programs I can use that really test the machine's limits.

When *Art Effect 2* came along I thought it would take full advantage of my monster system. But no, I still get "out of memory" messages when I have more than 40Mb RAM still free and I still have to use 32Mb worth of hard disk space for virtual memory.

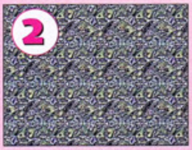
PICTURE PERFECT

Making pictures from scratch in Art Effect is great. You can really use the filters to full effect and because they have a preview, you get an idea of what damage you're going to do before you commit yourself.

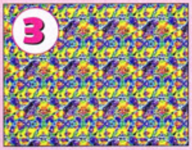
What's more, abstract images are also very easy. Using the methods shown here, you too can create images similar to the following sequence of pictures – or hopefully something far better!



I started off by just scribbling in difference mode with a variety of colours. Next up, I used the Make Tile filter to make a repeating brush from the red boxed area of the picture.



I then started a new picture and used the Tile... filter to fill it with my repeating map. This looked OK, but wasn't really very interesting. To help things along, I brightened the image up and then used the Extract Detail... filter to create this interesting stone-like pattern.



The stony pattern was nice but I fancied something with a little false colour. I tried Art Effect's False Colour filter, but wasn't pleased with the effect I was getting, so I moved over to the Solarize filter. This allowed me to offset my hue and really saturate the image with colour. Brightening it up a touch too resulted in the image you see here.

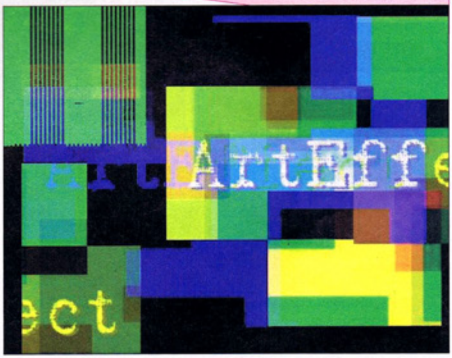


Now's the real test. I decided to lay on some drop-shadowed text and I thought I could make use of Art Effect's layers to do this. I just used the same text but with the shadow in black and the foreground in white and placed the text on two new layers. The layers function also allows the user to set an opacity for each layer so that I could adjust the transparency of the drop shadow as I saw fit.

capable of providing 16- or 24-bit working screens.

In addition to having a fairly beefy processor, plenty of RAM and a graphics card, *Art Effect* also requires a fairly large amount of free hard drive space for its virtual memory. Haage and Partner recommend a 32Mb swapfile for use with *Art Effect*, anything less and they won't guarantee what sort of results you're going to get. All in all then, it has some fairly stiff requirements. So is *Art Effect* going to be the program that forces you to upgrade your machine?

"...this has not turned out to be the masterstroke they obviously thought it would be."



This picture has either been ruined or much improved – depending on whether this was the effect desired or not!

WHAT'S NEW FOR TWO?

- **Layers** – *Art Effect* now offers the user up to three independent layers on which to build up their images without affecting detail beneath. The nicest thing about layers is that the file format that *Art Effect* saves layered images out in, is seen as a standard IFF ILBM 24-bit file by viewers like *Viewtek* and *CyberWindow*.
- **Multiple Undo/Redo** – This is now user defined so you can choose how many steps you want to change.
- **New plugins** – Because there are more blur-oriented filters there's now a blur submenu which contains the following:
  - Radial Blur
  - Zoom Blur
  - Motion Blur – In addition to the existing Gaussian blur etc. There are also Make Tile and Tile functions which can be used for creating repeating brushmaps.
- **Virtual memory**
- **Other enhancements** – Aside from the fact that the whole package has been rewritten in *StormC* there are a number of other cosmetic improvements including the ability to use arithmetic in text gadgets and have *Art Effect* work out the result for you.
- **ARexx** – New comprehensive ARexx port

SOME DOUBT

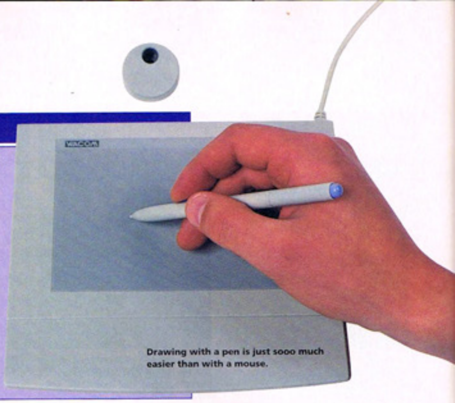
Unfortunately, I don't think so at the moment. I have v2.1.3 to play around with and I think you'll want to wait until at least v2.2 appears before you chance your arm on an expensive art package. Software reviewers like myself don't tend to spend weeks on an image trying to get every last nuance just right. Those that do, should be warned – *Art Effect* has screwed up some of the images I was working on for this piece. Now, it may just be my machine. Haage and Partner say that no-one else has complained about these problems, but hang on a mo. I've run this software on my A4000 at work. It crashed. Nick's run it on his A4000. It crashed. Neither of those machines had a graphics card. OK, so I'll try it on my machine at home (more RAM than some people have hard drives and more power than Sizewell B). It crashed. Haage and Partner recommend using *CyberGraphX* for your graphics card but that's a bit tricky for anyone who owns a PicassoIV because it isn't available for that card. The upshot is that this is a program that seems to have been released onto the public a bit before its time. *Art Effect* even claims to have an emergency exit mode for when things are going a bit pear shaped. This is supposed to sit in the background checking the status of various critical pointers and then warning you if a crash is imminent. It's supposed to let you save your files before it gracefully exits. No-one I know has ever seen this happen – just the usual flashing red box on black. And it's a very great shame because *Art Effect* really does have some cracking tools. The filters that made earlier

Continued overleaf ➡

CAN YOU TAKE THE PRESSURE?

Haage and Partner also sell a driver specifically for the Wacom ArtPad graphics tablet. This isn't an expensive bit of kit, only retailing for about £150, and if you're serious about your artwork, it's an essential purchase. *Art Effect 2* works well with this tablet, making full use of its pressure sensitivity and hopefully its eraser function. Unfortunately, the driver they sent me only gave menus when you turned the stylus around to rub something out, but I understand this should work correctly (as should stylus tilt) by the time you read this.

If you've never used a graphics tablet before, or you've used a non-pressure sensitive model with a stylus on a lead, you'll be amazed by just how comfortable and natural the Wacom tablet feels, and by how much better you can draw with a pen than with a mouse – no surprise there! Best of all, the driver can replace all mouse functions allowing you to do away with your rodent – great if you don't have much desk space, or you want to have two joysticks plugged in all the time (the Wacom tablet, like most graphics tablets, goes in any available serial port).

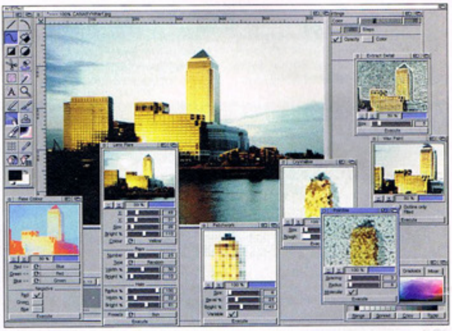


Drawing with a pen is just sooo much easier than with a mouse.

versions so popular have been improved and extended (there is also an additional set of plug-in modules called Power Effects in this version) and seem to be faster than before. There's

"...this is a program that seems to have been released onto the public a bit before its time."

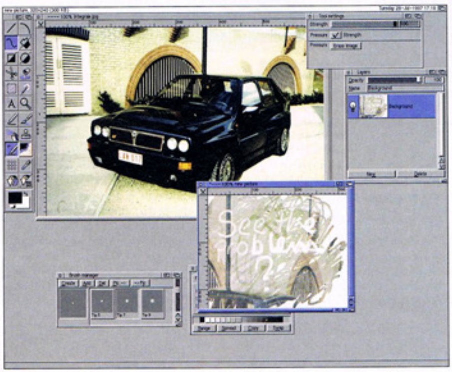
an ARexx port – not too well endowed with commands, but I'm sure that will grow, and some of the tools have had a bit of a rejig. What's more, it's fun to use, as long as nothing goes wrong. When it's working the magic wand tool does a grand job, but a lot of the time it just seemed to select a strip across an image, regardless of colour boundaries. Likewise, using the stencil in conjunction with the crop tool sometimes had strange results. The odd "Channel 4"-style *Art Effect* picture on the page 62 is an example of one such accident. Fortunately, it improved the original mess no end, but how likely is that to be the case with a picture you have lovingly slaved over for hours?



Some of *Art Effect*'s many filters, including pointillise, false colour, crystalise and patchwork.

HOLD YOUR HORSES

All in all, if you're interested in getting hold of *Art Effect 2*, you've got the recommended hardware spec – a graphics card, at least 16Mb RAM, a speedy '030 and more than 40Mb hard drive space free – you would do well to do one of two things. Either wait for a couple of revisions or make sure that you're not going to have to pay for minor upgrades. It seems a pity that a package with as much potential as this should be released without some serious error checking and I greatly look forward to seeing a more stable version in the future.



The main picture left a ghosted version on the small picture, when dragged across it.

DISTRIBUTOR: Blittersoft 01908 261466
PRICE: £119.95
REQUIREMENTS: AmigaOS 3.0, ECS or AGA, hard disk, at least 6Mb RAM
RECOMMENDED: '040, 16Mb RAM, graphics card, large, fast hard drive

SPEED: ●●●●○
A lot better than it was, especially for the blur effects.

MANUAL: ●●○○○
An AmigaGuide update, no online help.

ACCESSIBILITY: ●●●●○
Easier to get into than the competition.

FEATURES: ●●●●○
Definitely getting there, but some functions need improving.

VALUE: ●●●●○
Good – if it works on your machine.

OVERALL VERDICT:
Needs a lot more testing before being inflicted on a paying public.

80%

mini Office

The price is certainly small, but does *mini Office* have what it takes today? Ben Vost finds out...

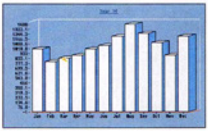


***mini Office*'s Database module offers a flat file database that's suitable for storing names and addresses.**

Another of Guildhall's re-releases under the Acid Software label, *mini Office* was originally reviewed way back in *AF39* where it scored 84 per cent. It's an integrated package consisting of a word processor, spreadsheet, database and graphics module. There's also a limited filer program that allows you to format disks and copy files and the like – very useful considering *mini Office* doesn't play well with other children.

Unfortunately, it hasn't stood the test of time that well either. In an age when only the rich had a hard disk, presenting the *mini Office* install instructions as a list of files, which needed copying from four floppies, was acceptable practice. These days it's pretty much unforgivable. It says on the box that *mini Office* is compatible with Workbench 1.3, useful for all you stick-in-the-muds out there. This facet of the program is made obvious by the fact that the icons have their black and white components switched around – no *MagicWB* icons here. Worst of all, the modules all look dated and dedicated to a PAL: Hi-Res screenmode (I'm not even sure that this program will work on NTSC machines).

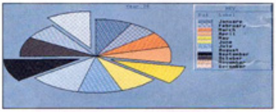




The graphics module can create IFF ILBM graphs like the one shown here.

But these things are all cosmetic. What is less cosmetic is the performance of the programs that make up the *mini Office* suite. As a tribute to AMOS, (who wrote the program), they are quite impressive, but they certainly do show the limitations of this version of Basic. Picture, if you will, no proper multitasking, no ASL (or ASL replacement) requestors, no CG fonts, no screenmode requestors, an inconsistent menu style, non-standard buttons, gadgets and keyboard shortcuts and much more in the same vein. Also, because these are all Basic programs, compiled obviously, but nonetheless Basic, there are limitations – spreadsheets can only have 5200 cells, databases only 9999 records and the fifty thousand word dictionary that the word processor uses doesn't have words like 'in', 'January' or 'cope' in it.

However, if you have a really basic machine then you won't have spent time learning that RAmiga-s saves a file, so you won't be disappointed that it now becomes LAmiga-s. As long as your personal requirements aren't too heavy, then *mini Office* represents a good value-for-money package that should satisfy the needs of quite a few Amiga owners. All the same, it would have been nice if Guildhall had got the source with the package so that it could be updated somewhat, or even had an Installer script written to make installation to a hard disk less of a trial.



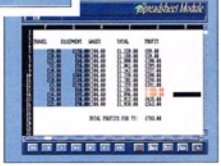
Pie charts can be exploded, but you can't save them as anything other than IFF ILBM.

"... mini Office is compatible with Workbench 1.3, useful for all you stick-in-the-muds..."

ALTERNATIVES

While *mini Office* certainly seems to be the only integrated package on the market at the moment, it's certainly worth looking at *Personal Suite* from Cloanto. While its word processor *Personal Write* isn't even as advanced as *mini Office's*, you do get *SBase Personal 4* and *Personal Paint* balancing up the equation and pushing back in *Personal Suite's* favour. However, you don't get a spreadsheet program in *Personal Suite* and the packages certainly aren't as integrated as *mini Office's*. On the plus side again, Cloanto's package of programs are a lot more modern in design and will cope with graphics cards and patches like *Magic Menu* with no difficulty.





The Word Processor and Spreadsheet modules are competent but hardly exciting these days.

DISTRIBUTOR: Guildhall 01302 890000
PRICE: £19.99
REQUIREMENTS: Low-end Amiga, not too many expectations.

SPEED: ●●●○○
Not too bad with the example data.

MANUAL: ●●●●●
Very good, with tutorials and reference section for each module.

ACCESSIBILITY: ●●●○○
Not bad but hard disk installation needs work.

FEATURES: ●●○○○
Looking dated now.

VALUE: ●●●●○
Good, if you don't expect too much.

OVERALL VERDICT:
Best suited to low-end systems. Other users will probably be disappointed

63%

Amiga Mice

Replacement Mice £4.95
MegaMouse 400 .... £9.95
MegaMouse Plus (3 Button) £10.95
Optical Mouse £29.95
New Golden Image TrackBall............ £19.95
Pen Mouse .... £12.95 (ideal for CAD)
New Black Mouse for Amigas £9.95



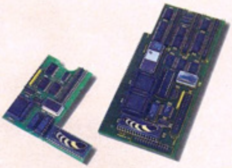
Ram Boards

RAM CARDS A1200

A1200 with clock and 4Mb (not upgradeable) £49.00
A1200 with clock and 8Mb £65.00
A1200 with clock, 8Mb & 33MHz FPU £80.00
33MHz FPU inc. crystal.................. £15.00

Controllers

Catweasel for A1200 – allows you to connect High Density Disk Drives £55
Catweasel for A1500/2000/4000 .... £55
Buddha IDE Controller for A1500/2000/4000 £55
Catweasel plus Buddha for A1500/2000/4000 ... £79
Oktagon 2008 SCSI Controller £99
Multiface III £79



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Buffered interface for A1200 with IDEFIX'97 software allows you to connect 4 ATAPI devices to A1200 .... **£59.95**

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Different options to connect CD ROM drives to A600 or A1200

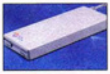
a) Use Internal IDE port with AlfaDuo if you have 2.5" Hard Drive (will be with full IDEFIX software).
b) Use Internal IDE port with Alfa-Quatro interface if you have 3.5" Hard Drive (will be with full IDEFIX software).
c) PCMCIA external interface option available.

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Eight speed CD ROM for	£169.00	£139.00	£149.00	£129.00
12 Speed CD ROM for	£179.00	£149.00	N/A	£139.00
16 Speed CD ROM for	£189.00	£159.00	N/A	£149.00

*(for A500/A500+ Alfapower hard drive controller and Hard Drive is required). A1500/A2000 supplied with IDE controller & software. A4000 supplied with AlfaQuatro interface & Full IDEFIX software.

Floppy Drives



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Internal Floppy Drive A600/1200+ ... £28.00
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HARD DRIVES + BUDDHA CONTROLLER
FOR A1500/A2000/A4000 .... 1.2Gig £189.00

IDE 2.5" Hard Drives

IDE 2.5" Hard drives come formatted and installed with Workbench. Cable, screws, software and instructions supplied. *(please ring for availability)*

80Mb £69.00	340Mb........... £109.00
120Mb £79.00	420Mb........... £119.00
250Mb £89.00	540Mb........... £129.00

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IDE 3.5" Hard drives come formatted and installed with Workbench. Cable, screws, software and instructions supplied. *(please ring for availability)*

850Mb £125.00	2.5Gig £175.00
1.2Gig............. £135.00	3.0Gig £200.00
1.7Gig............. £155.00	5.0Gig Maxtor £329.95

"Amiga Format Gold Award August '97"

Memory

4Mb Simms......... £15.00   16Mb Simms ... £60.00
8Mb Simms......... £25.00   32Mb Simms... £140.00
Zip Rams *(suitable for A3000 & Oktagons)* every 2Mb £40.00

Miscellaneous Products

44pin 3 connector cable £5.00
44pin 2 connector cable £3.00
40pin 3 connector cable 90cm..................... £5.00
AlfaDuo 44pin to 40pin Interface & IDE cables... £20.00
AlfaQuatro 3x40pin Interface & IDE cables....... £39.95
DD floppy disks (50) *including multicoloured disk labels* £13.00
DD floppy disks (100) *including multicoloured disk labels* £25.00
3.5" Hard Drive Kit for A600/1200 *+ Install software* £15.00
Diskbox to hold 10 discs £1.00
Animal Jungle design and Dinosaur design ... £2.00
Optical Mouse Mat £5.00
2 in 1 Scanner/Mouse Pad *Can be used as a memo pad* £3.00
Amiga Power Supply 4.5 amp £15.00
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1230 33MHz + 4Mb £135.00
1230 33MHz + 8Mb £145.00
1230 33MHz + 16Mb £175.00

Accelerator for A1200

Viper MKV 1230 50MHz plus SCSI interface
with 4Mb.... £159.00
with 8Mb.... £169.00
with 16Mb.. £199.00

50MHz FPU £35.00

Viper MKIV 42MHz + 4Mb (not upgradeable)............ £80.00



Accelerator for A600

Viper A630 40MHz + 4Mb (not upgradeable) £110.00
Viper A630 40MHz + 8Mb (not upgradeable) £120.00

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Designed as upgrades for existing systems, **Power Boards** incorporate innovative dual processor technology where a fast PowerPC RISC processor is combined with a 68k CPU, dynamically sharing memory and system busses.

While the original AmigaOS 3.x continues to run on the 68K CPU, supporting existing applications to provide backward compatibility, the PowerPC CPU is backed by comprehensive PPC Libraries which provide the functionality to integrate PowerPC into an Amiga multitasking environment.

Software developers can easily optimise their programs, step by step, porting single tasks to PowerPC code, which then run in parallel with 68k tasks. Leading Amiga software vendors are preparing ported or optimised versions of their software packages already. It is anticipated that a large quantity of software products supporting the PowerPC will be available soon.

Power Boards will be delivered with a comprehensive suite of utilities, including the PPC library, as well as tools for creative users. Among them is a Public Domain GNU C compiler for PowerPC (including sourcecode), many demo programs and utilities with sourcecode. In addition to this software, free developer support is available via FTP site.

Last but not least, a PowerPC optimised version of CyberGraphX V3 with RISC optimised CyberGL/3D plus MPEG functions and libraries is included (along with a special GGX driver to support the AGA chipset) with full and comprehensive documentation.

	Blizzard 603e PowerBoard	Blizzard 603e+ PowerBoard	Blizzard 2604 PowerBoard	Cyberstorm PPC
PowerPC CPU Clock Speed	603e 175MHz	603e 200MHz	604e 150-200MHz	604e 150-200MHz
Companion CPU	68030 50MHz	68040/68060 25-50MHz	68040/68060 25-50MHz	68040/68060 25-50MHz
Est. PPC Performance MIPS SpecFP95	@ 175MHz Approx. 250* Approx. 3.1	@ 200MHz Approx. 280* Approx. 3.5	@ 200MHz Approx. 350* Approx. 7.1	@ 200MHz Approx. 350* Approx. 7.1
Memory Option SIMM Sockets	Max. 64Mb 1	Max. 64Mb 1	Max. 128Mb 4	Max. 128Mb 4
SCSI On Board	Fast SCSI-II	Fast SCSI-II	Ultra Wide	Ultra Wide
Amiga Compatibility	A1200(+T)	A1200(+T)	A1500/2000	A3000/4000(+T)
Est. Availability	Summer '97	Summer '97	Summer '97	Summer '97

Blizzard 603e Power Board - A1200(+T)

The new Blizzard 603e Power Board is an inexpensive Power Up Accelerator for A1200 system owners who already have a board with a socketed full 50MHz 68030+MMU processor (these CPUs have a gold finish to the top surface) eg.50MHz Blizzard 1230-II, III, IV or similar. Featuring a 175MHz PowerPC 603e RISC CPU, the board has a socket for the 50MHz 68030, expansion capabilities of up to 64Mb high speed memory and built in SCSI-II controller.
Imagine the performance from your A1200 with this low cost board!

Blizzard 603e+ Power Board - A1200(+T)

The Blizzard 603e+ Power Board is the highest spec Power Up Accelerator for A1200 systems. Featuring a 200MHz PowerPC 603e RISC CPU, the board has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 64Mb of high speed memory and built in SCSI-II controller. This board is ideally suited to those owners who already use an accelerator with either a 68040 or 68060 CPU (ie. Blizzard 1240T/ERC or Blizzard 1260 owners or their equivalents).
If you want the BEST from YOUR Amiga A1200 - this is it!

Blizzard 2604 Power Board - A1500/2000

If you own either an A1500 or A2000 you can now take advantage of PowerPC technology with this 604e CPU RISC based board which has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 128Mb of high speed 64-Bit memory, built in Ultra-Wide SCSI controller and a high performance expansion slot for expansions such as the CyberVision PPC. This board is ideal for owners of accelerators with 68040 or 68060 processors such as the Blizzard 2040 or Blizzard 2060 owners (or their equivalents).
Want the BEST from YOUR Amiga A1500/2000? - Look no further!

CyberStorm PPC Board - A3000/4000(+T)

CyberStorm PPC is the ultimate accelerator for Amiga 3000(T), 4000(T) and systems with compatible CPU slots, offer blistering 604e performance - more than 10 times faster than any 68k based accelerator on sale today! Available with clock speeds of 150, 180 and 200MHz, the companion socket for the 68k processor accepts either a 68040 or 68060 CPU. The board provides 64-bit wide extremely fast memory expansion using pairs of standard SIMMs, dynamically shared by the two CPUs. Additionally, CyberStorm PPC comes with a DMA driven Wide ULTRA SCSI controller on board offering transfer rates of up to 40Mb/sec for even the most demanding of professional applications. A 32Bit high speed expansion connector, with DMA access to the main memory, is also provided for later upgradeability.

The 200MHz version of the CyberStorm PPC provides performance of more than 350 MIPS or approximately 8.1 SPECint95 and 7.1 SPECfp95*... breathtaking speed that goes far beyond that offered by most PC systems. In the second half of the year, an advanced graphics board will become available for the CyberStorm PPC expansion slot, providing a subset of the innovative CAIPIRINHA custom chip. By having a stand alone version of the DLRP (Display List Risc Processor), this board will offer superior display capabilities through higher VRAM-based resolutions, pixel depths and speeds, as well as the potential to begin developing software supporting the functionality of the forthcoming A\BOX system.

PRICING AND AVAILABILITY:
Options with or without 68k CPUs will allow users to fit the CPU from their existing accelerator. Delivery of Power Boards is scheduled for Summer 1997 following finalisation of CE approvals. Call now for full details.

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with Empty 030 Socket	£289.95	
with Empty 040/060 Socket		£379.95
with 68030/50MHz fitted	£329.95	
with 68040/25MHz fitted		£429.95
with 68040/40MHz fitted		£459.95
with 68060/50MHz fitted		£614.95

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Cyberstorm PPC 604e Board...	150MHz	180MHz	200MHz
with No Processor	£479.95	£549.95	£629.95
with 68040/25MHz fitted	£519.95	£579.95	£669.95
with 68040/40MHz fitted	£549.95	£609.95	£699.95
with 68060/50MHz fitted	£709.95	£769.95	£859.95

**Quoted performance figures are estimations based on specifications from Motorola/IBM and are relevant to the PowerPC processor only. Prices include VAT @ 17.5%. Owners of other makes of board or those who don't already have an appropriate CPU - please call for prices.*

Harwoods... always the Fastest Amiga Boards and NOW PowerPC Technology for Amigas too!

CYBER BLIZZARD SPEED

CHECK OUT... NEW LOWER PRICES ACROSS THE RANGE OF BLIZZARD AND CYBER PRODUCTS!

STILL THE FASTEST, NOW LOWER PRICED, NO ONE ELSE COMES CLOSE!

CYBERVISION 64/3D

64-Bit ENGINE A2000/3000/4000 (T Series) 3D VERSION 24-Bit COLOUR ACCELERATED GRAPHICS CARD.

For all Zorro-3 and Tower System A1200s with Zorro II backplanes.

The core of this great board is the VIRGE GRAPHICS CHIP from S3. With 3D capabilities, it's able to process complex 3D functions in hardware (eg. shaded & textured surfaces) with Trilinear Filtering and Shading/Fogging for super realistic Real Time 3D Rendering. When used with CyberGraphX 3D library, Cybervision 64/3D can even offer a broad range of 3D facilities for any software developer.

LOWER PRICES!

CyberVISION 64/3D... 4Mb Version — £169.95

MPEG Decoder - added to the Feature Connector to provide real time MPEG audio and video decoding at full size custom screens or, in Workbench windows (HQ display using 16/24Bit modes from CyberGraphX Workbench). Stereo audio output is provided via the supplied dedicated line output jack. Upgrade to a Cybervision 64/3D and MPEG bundle (from previous Cybervision 64) for a special low price! — £149.95

Monitor Switcher - with integrated scan line doubler. Designed to fit into the Amiga slot, this gives full automatic switchover from the standard Amiga signal to Cybervision 64/3D's output. Both cards may be fitted inside A3000/4000 models leaving three Zorro-III slots free. — £79.95

CYBERSTORM II

CAN BE EXPANDED TO A FULL 68060

AMIGA 68040ERC AND 68060 ACCELERATORS

You can choose between the 68040/40ERC Cyberstorm II or the ultra powerful 68060 version. When you fit a Cyberstorm II 68060 Accelerator to YOUR A3000, A3000T, A4000 or A4000T you can for example, render a graphic with Imagine 2.0 software in just 2.4 minutes! Compare that with 10.34 minutes on a standard A4000 '040/25! With no jumpers, both Cyberstorm II models are fully plug and play and, A4000 users even have the option of a SCSI-2 Module if they wish (A3000s already have SCSI built in).

- Up to 128Mb of standard SIMMs can be installed and you can even transfer the 72Pin SIMMs from your Amiga A4000 straight onto your new Cyberstorm.
- Optional SCSI-2 Module
- If your budget currently only covers the cost of Cyberstorm II 68040ERC, you can always upgrade later to the full 68060 processor for the extra power!

LOWER PRICES!

Cyberstorm II 68040/40 40MHz 68040ERC - 0Mb, Expandable to 128Mb — £299.95
Cyberstorm II 68060/50 50MHz 68060 - 0Mb, Expandable to 128Mb — £449.95
Cyberstorm II SCSI-2 Module — £79.95
Cyberstorm II SIMM RAM Expansions (Please call for a range of SIMM prices) — £Call

1240T/ERC TURBO ACCELERATOR MEMORY BOARD

A1200T* TURBO ACCELERATOR and MMU/FPU for *TOWER SYSTEMS
40MHz 68040 - 0Mb Standard, expandable to 128/256Mb
30MIPS with 60 Nanosecond SIMM fitted.

CAN BE EXPANDED TO A FULL 68060

A super LOW COST A1200 Turbo Accelerator Board, ideal for housing on any *Tower System A1200 main board (mechanical dimensions, high power consumption and heat emission require an active cooling cap, we therefore do NOT recommend fitting to standard A1200s without the appropriate modifications etc.). The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - an excellent guaranteed and competitively priced alternative. Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

LOWER PRICE!

Blizzard 1240T/ERC Turbo 40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128/256Mb — £199.95

2040ERC TURBO ACCELERATOR MEMORY BOARD

A1500/2000 TURBO ACCELERATOR and MMU/FPU
40MHz 68040 - 0Mb Standard, expandable to 128Mb
30MIPS with 60 Nanosecond SIMM fitted.

The Blizzard 2040ERC is a super LOW COST board which offers A1500/2000 owners the opportunity to upgrade to the same performance as the Blizzard 1240T/ERC Board. Users will then be able to enjoy full A4000/040 power as well as take advantage of the built in SCSI-2 interface. The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - excellent guaranteed competitively priced alternative.

Blizzard 2040ERC Turbo
40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128Mb — £299.95

LOWER PRICE!

CAN BE EXPANDED TO A FULL 68060

1260 TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

A1200 TURBO ACCELERATOR and MMU/FPU
50MHz 68060 - 0Mb Standard, expandable to 64/192Mb
38.71MIPS with single sided 60/70 Nanosecond SIMM fitted.

Offers Amiga A1200 owners FULL 68060 POWER with a board that simply plugs into the trapdoor slot. Your A1200 will then operate at TWICE or even THREE TIMES THE SPEED of an '040 based upgrade and up to FIVE TIMES THE SPEED of a standard A4000! Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

Blizzard 1260 Turbo 50MHz 68060 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 64/192Mb — £349.95

LOWER PRICE!

2060 TURBO ACCELERATOR MEMORY BOARD

A1500/2000 TURBO ACCELERATOR and MMU/FPU
50MHz 68060 - 0Mb Standard, expandable to 128Mb
38.71MIPS with 60/70 Nanosecond SIMM fitted.

Offers Amiga A1500/2000 owners the same specification as the remarkable Blizzard 1260 Turbo (A1500/2000s will operate at up to FIVE TIMES THE SPEED of a standard A4000) with FULL 68060 POWER and also includes built in SCSI-2 interface!

Blizzard 2060 Turbo
50MHz 68060 and MMU/FPU with SCSI-2, 0Mb 32Bit Fast RAM, exp to 128Mb — £499.95

LOWER PRICE!

1230-IV TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

A1200 TURBO ACCELERATOR and MMU
50MHz 68030 - 0Mb Standard, expandable to 128/256Mb
9.91MIPS with 60 Nanosecond SIMM fitted.

The highest performing 68030 Accelerator available for your A1200. With its 50MHz 68030 and MMU, the 1230-IV offers BETTER PERFORMANCE at a LOWER PRICE. With a SysInfo rating of 9.91 (using a 60 ns SIMM) you can see the 1230-IV is very fast... a performance gain of up to 500% is achieved! Via its Fast Expansion Bus, an optional SCSI-2 Controller module can easily be fitted. An industry standard SIMM socket provides for up to 128Mb of auto-configuring 32Bit Fast RAM (up to 256Mb with the SCSI-2 option using its extra SIMM socket).

LOWER PRICES!

Blizzard 1230-IV Turbo 50MHz 68030 and MMU, 0Mb 32Bit Fast RAM, exp. to 128/256Mb — £99.95
Fast 60 Nanosecond SIMM RAM Expansions - 32Bit, 72Pin — £Call
Motorola Maths Co-Processor - 68882 PGA type FPU, 50MHz — £49.95

MOTOROLA MOTIVATED

Blizzard and Cyberstorm products use MOTOROLA 68000 and PowerPC series processors. They run **WITHIN** the electrical timing specification laid down by Motorola to prevent any possible overheating/reliability problems. So, when you pay for a 50MHz CPU for example, that's exactly what you get... not a 40, 33 or even a 25MHz CPU "clocked" to 50MHz! Look out for the **MOTOROLA MOTIVATED** logo - your guarantee of our commitment to quality and reliability - **BEWARE** of "clocked" CPUs! T/ERC and ERC processors used on selected boards are recycled and vigorously tested 68040 CPUs operating at 40MHz - an excellent guaranteed and competitively priced alternative.

BLIZZARD SCSI-IV KIT

SCSI-2 MODULE for 1230-IV, 1240T/ERC & 1260, & ADDITIONAL 128Mb SIMM SOCKET
(Fast SCSI-2 DMA Controller - upto 10Mb/s transfer rates with additional SIMM socket/extra RAM)

Blizzard SCSI-IV Kit — £79.95

What the Magazines think...

Blizzard products have consistently achieved the highest magazine accolades and awards!

Amiga Shopper *"...1260 is destined to become the ultimate object of desire for A1200 owners"* - **91% STAR BUY Award**
Amiga Computing *"...If you want the fastest Amiga in the World, get this board"* - **92% BLUE CHIP Rating**
Amiga Format *"...Ride on the fastest A1200 in the World..."* - **95% GOLD Rating**

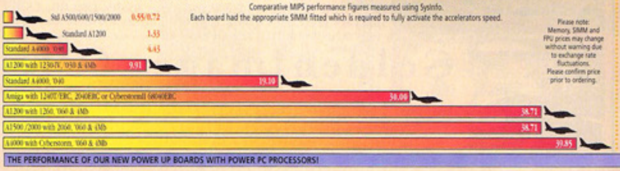
OUR RANGE HAS WON MORE AWARDS THAN ANY OTHER

1230-IV, 1240T/ERC and 1260 FEATURES

- May be disabled with simple keystroke on boot up - for full games compatibility, even badly programmed/older software
- Battery backed self re-charge Real Time Clock
- High performance expansion with full 32Bit wide DMA
- Easy trapdoor installation - no modifications required (1240T/ERC fits in Tower)
- 1230-IV features PGA FPU socket allowing optional 50MHz 68882 FPU

JUST COMPARE THE PERFORMANCE FIGURES FOR YOURSELF!

Comparative MIPS performance figures measured using SysInfo.
Each board had the appropriate SIMM fitted which is required to fully activate the accelerators speed.



Please note: Memory, SIMM and FPU prices may change without warning due to exchange rate fluctuations. Please confirm price prior to ordering.

COMPATIBLE WITH ANY STANDARD VIDEO SIGNAL AND S-VHS!

Pro-GRAB™ S-VHS 24RT Plus

NEW LOWER PRICES!



The revolutionary S-VHS **ProGrab™ 24RT Plus** with Teletext is not only the best way to get crisp colour video images into your Amiga, from either live broadcasts or taped recordings, it also costs less than any of its rivals. This real time PAL/SECAM/NTSC* 24-Bit colour frame grabber/digitiser has slashed the price of image grabbing on the Amiga and, at the same time, has received rave reviews for its ease of use and excellent quality results. ProGrab™ has earned honours from just about every Amiga magazine and Video magazines too! And... with ProGrab™ you needn't be an expert in Amiga Video Technology, a simple 3 stage operation ensures the right results... **Real Time, after time.**

STAGE 1

Select any video source with S-VHS or composite output. This could be your camcorder, TV with SCART output, satellite receiver, domestic VCR/player or standard TV signal passing through your VCR/player... the choice is yours.

STAGE 2

With ProGrab's software, select an image you wish to capture using the on screen preview window and Grab (because the hardware grabs frames in real time, there's no need for a freeze frame facility on the source device). Once grabbed, simply download and view the full image on your Amiga screen. ProGrab also includes a Teletext viewing and capturing facility from either TV or satellite sources.

STAGE 3

Use the 'grabbed' image with your favourite word processor, DTP or graphics package. ProGrab really does make it that simple!



Grab images with your Camcorder including S-VHS

ProGrab™ 24RT Plus...

- Supports all recent Amigas and is also fully AGA Chipset compatible. You can render images in any Workbench screen mode resolution including HAM8 mode (Amiga RAM permitting).
- Saves and Loads images in IFF/ILBM, IFF/ILBM24, JPEG, BMP, PCX, and TARGA file formats. ProGrab saves animations as Anim5 files and animations with sound (requires PCMCIA interface and separate sound sampler) as Anim5 + 8SVX files. A range of image processing effects, palette computing routines (AGA only) and dithering methods are featured in ProGrab Version 2.6.x. Photogenics fully supports ProGrab with a custom 'Loader' to enable grabs directly from within the program - this direct input method will save YOU more time when handling large images.
- Software has built in mono and colour animation facilities. Number of frames is dependant on Amiga RAM.
- Release 2.6.x software now includes...
  Additional Teletext Facilities - with either terrestrial or satellite TV signals.
  Larger Preview Window - double resolution and four times area of previous ProGrab software.
  International Support - now compatible with composite PAL, SECAM and NTSC - straight from the box.
  Larger Preview Window - double resolution and four times area of previous ProGrab software.



ProGrab™ 24RT Plus costs just £99.95 LOWER PRICE!
and is supplied with just about everything you'll need♦...

- ProGrab™ 24RT Plus Digitiser
- Latest ProGrab Version 2.6.x Software
- Mains Power Supply Unit
- Parallel Port Connecting Cable
- User Manual
- Input sockets for Composite and S-VHS.

♦ A video source cable will be required to match your own equipment - ask us for details.
**Standard ProGrab hardware is PAL/SECAM/NTSC compatible. Interface mode options are available with PAL & SECAM only.*
ProGrab supports any Amiga with Kickstart 2.04 or later and a minimum of 1.5Mb free RAM.

PCMCIA Interface - A600/1200

ProGrab's optional PCMCIA Interface includes the latest version software and extends performance for serious or professional users - offering the following benefits...

- Faster downloading times (up to FIVE times quicker)
- Improved animation speeds of up to 11fps (mono) and 3.5fps (colour)
- Saving of animations direct to your Amiga's hard drive
- Freeing of your Amiga's parallel port for use by a printer or other peripheral
- Sound sampling and animation capabilities (separate sound sampler required, see right)

PCMCIA Interface LOWER PRICE! £29.95

Stereo Sound Samplers

Two high quality 8-Bit Sound Samplers, specifically designed for use with our ProGrab 24RT digitisers, are available (PCMCIA Interface required).



The Hi-Fi version features the same 30MHz A/D convertor used in the ProGrab, maximum frequency is therefore only limited by the Amiga's hardware.
It also has a higher band width (40Hz to 20KHz) than our standard sampler.

Standard Stereo Sampler £19.95
Hi-Fi Stereo Sampler £24.95

ProTel™ Terrestrial/Satellite Teletext Decoders

Amiga or PC add ons for grabbing terrestrial or satellite TV Teletext pages which don't need a dedicated Teletext TV/Video to operate... required signal is simply the output taken from a standard VCR or a TV that provides a suitable video out signal. Once information has been downloaded, ProTel allows you to view pages instantly... no more waiting whilst your TV searches!

ProTel™ for Amiga
Stand alone unit designed to match your Amiga allowing files to be exported as ASCII Text for use in your word processor or saved as IFF graphics for DTP presentations.
ProTel™ Amiga Teletext Decoder £44.95

ProTel™ for PC
ProTel PC Teletext Decoder - internal ISA PC card NEW

- Friendly software
- Capture speeds of 1000 pages in 2 mins
- Background tasking • Easy configuration
- Save page files (ASCII, BMP, ProTel formats)
- Native 32Bit Windows '95 application
- Requires 386DX PC and 8Mb RAM (12Mb Rec.), Windows '95/3.1 or Workgroup 3.11, VGA display, Mouse and 1 free 8/16Bit ISA slot - MINIMUM
- PAL and SECAM

ProTel™ PC Teletext Decoder £29.95

*Camcorder User commented... "If you're looking for a high resolution 24 bit digitiser then, at this price, ProGrab 24RT represents **great value for money**."*

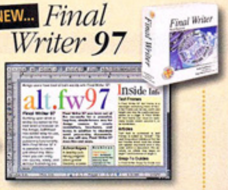
*ProGrab™ - Voted as **The Best Video Hardware** product for the Amiga. Especially pleasing because the award comes from Amiga Shopper magazine's readers... Satisfied Customers!*

*ProGrab™ - Amiga Format 95% **Gold Rating** and comments like... "ProGrab 24RT Plus is quite simply the digitiser to get", "Incredible value for money - no other digitiser offers so much for so little" and "Offers far more features than any other digitiser near the same price"*

ProGrab™ - Amiga Shopper 95% STAR buy and remarks like... "Sharp, crisp and faithful to the original colours, we were mightily impressed" and... "Highly Recommended. Whether you are a Videographer or a Graphic Artist, look to the ProGrab 24RT Plus. It's a winner" Hi-Fi Stereo Sampler - Amiga Shopper 92% STAR Buy April 1997.

*CU Amiga said ProGrab™ is... "Just the job for beginners and semi-professionals on a tight budget" and, "very hard to beat. For the money, **nothing can touch it**"*

NEW... Final Writer 97



The Best of Both Worlds

Amiga users have the best of both worlds with SoftWood's new Final Writer 97. Building upon what is widely accepted as the best word processor for the Amiga, SoftWood has added easy to use, trouble free desktop publishing functionality to Final Writer. With new Final Writer 97 it is possible to create just about any document you can imagine - quickly, easily and without frustrating program errors.

Final Writer 97 was born out of the necessity for a powerful, bug-free, simple to use way for Amiga owners to create newsletters, brochures and forms in addition to documents normally created in a WP. As you will see, Final Writer 97 does this and more. Over the years Final Writer has matured from the first Amiga word processor to offer outline fonts (originally known as Final Copy) to now the first word processor on any computer to offer both word processing and a rich set of desktop publishing capabilities.

New Features

Can you use the new features in Final Writer 97? Consider how you use a typical word processor. First, you begin entering text at the top of page one. As you enter more text it must be added to text you've already entered. With the exception of small text blocks in some word processors, you can't normally enter text anywhere on your page.

Now consider what you can do with a desktop publishing program. In a desktop publishing program you can enter text anywhere on a page and continue that text on any other page. You've seen this technique used in newspapers and magazines where a feature or article starts on page 1 and is continued on page 5. You've also seen columns of different widths on the same page as well as headlines that span more than one column and multiple lines. All of these layouts can be created using the new Text Frames feature.

Final Writer 97 combines the most comprehensive Word Processing features, with Desktop Publishing functionality, in one easy to use package, for Amiga owners who want the best of both worlds. From simple correspondence to complex newsletters, Final Writer 97 handles all tasks with ease, meaning for the first time on Amiga, Mac or PC, there's a product worthy of the name 'Document Publisher'.

With these new features you can:

- Enter text anywhere on a page
- Continue text on any other page
- Resize the space or frame that text is in
- Flow text around other text
- Set "Snap-To" guides to align text and graphics
- Position text and graphics one pixel at a time

SoftWood has not changed the way you are used to working in Final Writer, they have simply provided new tools. These new tools along with the features Final Writer already incorporates will allow you to create newsletters, forms, brochures and other documents never before possible with a normal word processor.

Final Writer 97 truly offers the ultimate in document creation. Whether you are typing a simple letter or producing a complex newsletter, Final Writer 97 gives you the power to do your job quickly and easily.

Why should you upgrade?

You've kept your Amiga because it's still the most powerful, easy-to-use computer on the market. Now, enhance your software library by upgrading to the most powerful, easy-to-use word processor on any computer.

System Requirements: Amiga with a Hard Drive, Workbench 2.04 or above and a minimum of 2.5Mb RAM (more recommended).

SoftWood Final Writer 97 £49.95
Upgrades are available for registered users, please call for prices.

Other SoftWood Products...
Final Writer Lite £19.95
Final Calc £64.95
Final Data £24.95

THE APPLE ALTERNATIVE

IF YOU'VE REALLY GOT TO BUY A NEW SYSTEM TODAY...
the next best thing to your Amiga could be an Apple Macintosh.

BUT WHY MACINTOSH?
Just like your Amiga, all Macs are Motorola based but have had the advantage of PowerPC RISC CPUs for some time - remember, even Pentium PCs in Windows™ systems are still merely CISC processors! Like the Amiga, Macs were designed from the outset to be an easy to use system with their windowing environment fully integrated - not bolted on later. And... Macs not only outperform other PC systems, but have recently become very competitively priced too.



Software: there are over 1800 titles specifically written for PowerPC Macs alone, plus thousands from pre PowerPC days which are still compatible. Industry standards such as Word, Pagestream, Word Perfect, FileMaker Pro, Excel, Quark XPress, Photoshop and many others have been developed for Macs.
Creativity: Apple still lead the creative world - 80% market share in colour publishing, most web sites are authored with Macs and post production video editing is dominated by the Macintosh too.
The magazine you are reading now was published using Macs!
Internet and Communications: all Macs are Internet Ready - many include built in modems and fax facilities etc. and standards like Netscape and Internet Explorer ensure the Net is easily accessible.
Connectivity and Expandability: all Macs incorporate built in networking and external SCSI connections - adding printers, drives, scanners etc. really is plug and play!
Education and Edutainment: Macs offer you the advantage of all the latest software from the likes of Dorling Kindersley, Microsoft etc. to help with the whole family's learning skills.
Multimedia: Apple is the World's No.1 Multimedia PC Vendor!
Recreation and Games: Some of the top selling games are available on the Macintosh including Ultimate Doom, MYST, Rebel Assault II, Dark Forces, Descent, Full Throttle and many more!
WANT ONE? Well, if you really want more performance without paying the earth - and you want it now... contact Harwoods - it may be easier than you think, especially with our finance facilities catering for both business and personal users (subject to status).

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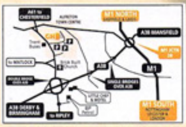
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GH WARRANTY...
Manufacturers' standard warranties apply or, ask about GH's comprehensive extended options which are always recommended for professional users to minimise costly down time - details available on request.

ALL PRICES INCLUDE VAT
...and are shown for personal users only. Business users please ask for VAT Exclusive prices.



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Write here, Write now

It is now, believe it or not, even cheaper to burn your own CDs. Nick Veitch takes a look at the latest crop of burners.

When *Amiga Format* started the world's first regular covermounted Amiga CD, we didn't have much choice in what hardware and software to use. The HP4020i was the only writer we could afford that worked, and it was £850, and *MasterISO* was the only CD writing software we could use and remain relatively sane – although in those early days I'm afraid everything from my desk, the A1500, various CD cases, various CD-R discs and even Mr Sandiford suffered horribly from unpredictable violent outbursts caused by buffer underruns.

These days there are quite a few packages you can use to burn CDs on the Amiga, from *MakeCD* and *Burn It* to thankfully updated versions of *MasterISO*. If you really want to suffer, you can even use the original Commodore *ISOBuild* software (to be found on the Amiga Developers CD-ROM). A new version of *MasterISO* is due "real soon now" which should hopefully add features like a Disk-At-Once mode. Unfortunately, the release date seems to keep slipping, and we got tired of having all these drives hanging around the office, so that review will have to wait for another time.

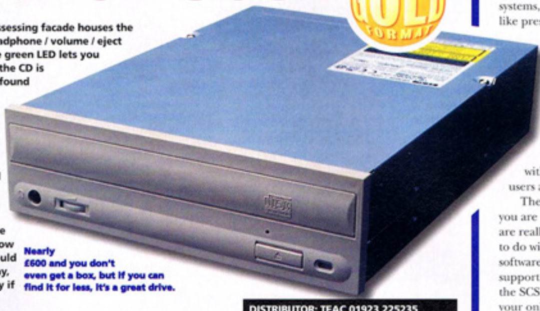
But, the reason we are all here is to find out about the latest generation of CD-ROM writers. As I said, they used to cost a fortune. They're still not cheap, but I expect you'd be surprised to find you could pick one up for as little as £300 – not even enough to ransom a king's little finger, never mind the majority of his person. Most of the reason for the price drop is the widespread use of these devices. They are no longer restricted to mastering audio CDs or games for console systems, but for more mundane things like presentations, transporting everyday data and making system backups (every issue of *Amiga Format* from *AF65* onwards is backed up onto CD for example).

The technology has also become more advanced, which always helps, and now even quad speed writers are within the budget of some home users and most small businesses.

The factors you should consider if you are thinking about buying a drive are really all tied up with what you want to do with it. You should find out what software supports it, whether it can support CDDA (direct audio through the SCSI port) and whether this will be your only drive, or in addition to your normal CD-ROM drive. In the case of the former, you may want one with a faster read time. For software support, I strongly recommend you take a look through the *MakeCD* compatibility list (which comes with *MakeCD*, or you can check out the website at http://makecd.core.de. There are a number of drives that work fine but cause problems with certain SCSI configurations (the A3000 seems to crop up on this list a lot), so it's best to find out before you get the drive.

TEAC R50S

AMIGA FORMAT GOLD



Nearly £600 and you don't even get a box, but if you can find it for less, it's a great drive.

An unprepossessing facade houses the standard Headphone / volume / eject fixtures. One green LED lets you know when the CD is active, but I found myself hankering after the more informative Hewlett Packard dual LED system, which lets you know when you are writing. I know that you should know anyway, but generally if there's one thing wrong with CD drives, hard drives and the like, it's nothing that couldn't be sorted out by the addition of some more flashing lights. They're only about 10p from Maplins for heaven's sake. This is the only internal unit on test, so I can't go on about how nice the box is. The box is as nice as the one you put it in.

The drive had no problems working with *MakeCD* or *MaterISO*, and admirably coped with the Disk-At-Once mode. It performs impressively, giving quad speed read and write with no problems, and this was the one drive that during testing didn't ever screw up a CD-R disc.

DISTRIBUTOR: TEAC 01923 225235
PRICE: £564

OVERALL VERDICT:
Ridiculously expensive, but the drive performs well.

90%

D2 2x6x CDR



The D2 2x6x CD-R sounds like it would be an ideal alternative to a CD-ROM drive if you don't already have one. A six-speed read time is more than adequate for normal CD-type activity and double speed write is adequate, if not excellent, for writing – I suppose it depends how many CDs you will be creating.

A caddy mechanism always makes me feel a bit more confident about a CD writer, as the CD has all round support, but it is too fiddly for general use. And there's always the problem that if you stand on the caddy (which believe me, is easily possible if not very probable in our office) then you're a bit stuffed until you get a replacement.

DISTRIBUTOR: D2 0171 8728000
PRICE: £411

OVERALL VERDICT:
A lacklustre performance from such an expensive unit.

71%

The front panel contains the standard headphone out, volume knob, eject button and a dual colour (amber/green) LED to let you know when the drive is busy/on.

Worryingly though, this drive consistently refused to work with *MakeCD*. It uses the same Sony engine as other drives which do work fine, but this one just refuses. We can't confirm whether or not this is a bug in *MakeCD*'s driver, or a fault with this particular drive, but it worked fine with *MasterISO*.

The actual drive comes installed in a rather oversized external case (it looks good though), and of course, comes complete with blank CD-Rs, labels and some rather redundant PC software.

Overall it seems fine, the caddy never got stuck, the speeds were more or less consistent, the light worked – but the *MakeCD* situation is worrying.

All the custom label kits and fancy styling can't hide the fact this drive doesn't offer much in the way of features.

Traxdata 4600



Supplied in a standard clip-together external box, the Traxdata is basically a rebadged Yamaha 400 drive. This is a tray loader, but one with a rather odd flap at the front, and a very flimsy tray that takes an absolute age to come in and out. But, at least the front panel has a separate on and read/write light!

Give this drive a lot of big chunky buffers, because it flies through the data. There isn't much point in having a 4-speed drive unless you have the memory to give it a decent buffer size, and we would recommend about 8Mb. The drive itself has a 2Mb buffer, which is double what you normally get in a CD-R.

This drive, which is based on the Yamaha 400T (a firm favourite amongst *MakeCD* users) offers superb value for money, giving the same (if not slightly faster, thanks to a larger buffer) write speeds as the TEAC at a lower cost. And it reads at 6x!

This rebadged Yamaha drive is an excellent buy if you plan to use a CD-R instead of a standard CD-ROM drive.

One final note, be sure to get one with the latest version of the firmware (1.0g is the current one). You can update the firmware later, but as Yamaha only supply the transfer software for Macintosh and Windows machines, you will have to run an emulator to do it on your Amiga.

DISTRIBUTOR: Gasteiner 0181 345 6000
PRICE: £449

OVERALL VERDICT:
Not as good value as the other Traxdata, but a good spec.

93%

Traxdata 2600



As with the previous writer, this unit is a rebadge, this time of the Phillips 2600 unit. The first thing that catches the eye about this drive is the style of the font panel. All the other drives could actually be normal CD-ROM drives to look at, unless you inspected them carefully. This one looks different. For a start it has a special "Writing" LED (hurrah) which is labelled as such, and since it's been placed right in the middle of the panel, it's hard to miss. The colour scheme is a little odd too. The tray flap is a dark grey colour, and the eject button is, well, indigo.

Still, looks aren't everything, as I'm often telling Andrea – the real test of the drive is how it writes. Well, the results speak for themselves – it does exactly what it says on the tin. 6x read and a double speed write. CDDA support, and no problems with *MakeCD* or *MasterISO*. However, it is known to cause problems with the A3000 SCSI interface, unless you turn off reselection.

But apart from that, it works fine. It's also damn cheap. This one wins the value contest hands down.

Interesting multi-coloured styling – it certainly looks different. It has all the features you could want unless you are mass-duplicating, and it's the cheapest unit in this round-up! Highly recommended.

DISTRIBUTOR: Gasteiner 0181 345 6000
PRICE: £300

OVERALL VERDICT:
The best buy for all but the Pro, this drive performs well at a budget price.

95%

One Professional 4xs



Basically, this unit is exactly the same as the Traxdata one, but at £50 more.

As this is based around the Yamaha 400T, this is essentially the same as the Traxdata drive reviewed above, except at £50 more. Of course, with this drive you do get lots of extras, like PC disc-burning software...

As the mechanism and engine are the same, this unit suffers from the same slow and flimsy tray which looks like it will snap off the first time you try and put a disc in the drive a little too forcefully. This is one drive where you are not going to be happy about pushing the tray to get it to go back in – use the button.

Surprisingly, the read and write times turned out slightly slower than those for the Traxdata, but that just goes to show that even using the same drive to master the same ISO images on the same machine, there is always going to be some random element. I suppose it might have been a bit hotter when we tested this drive. Or maybe I moved the mouse a few more times while it was writing. Anyway, there is no real point buying this drive over the Traxdata one from Gasteiner, unless you have a PC.

DISTRIBUTOR: Disc Direct 01223 507705
PRICE: £500

OVERALL VERDICT:
A good mechanism, but you can get a cheaper deal elsewhere.

82%

HP Surestore 602es

Again, this drive uses the ever popular Phillips CD2600 engine, in fact, the very same unit behind the Traxdata 2600 reviewed above. Unsurprisingly then, the unit performs much the same as the aforementioned.

The only real difference is the front panel, which I much prefer. The tray doesn't have a flap, but the end of the tray itself fills the gap. This actually makes for a much sturdier tray, as the end is obviously bigger and thicker than it would be if there was a flap, but it also makes it more susceptible to jarring (although we failed to screw up any CDs, even when we went to the trouble of manually wiggling it around as much as we could. The panel also has a decent set of lights, including a special "writing" one. Hurrah!

Oh yes, there are some differences on the rear too. The unit uses the standard SCSI-2 connector – the really small one with a metal shield. As most old SCSI interfaces on the Amiga use a 25-way D-type connector, you will need a different cable. Also, power is supplied by a strange DIN-type arrangement. A small kettle-lead to DIN socket transformer box is supplied, but you might not want such a thing cluttering up your desk. Oh, and if you do opt for this drive, make sure you get the es model, not the ep, which is a strange parallel one for PC users.

As this unit costs over £100 more than the Traxdata one supplied by Gasteiner, it brings into the question the common claim that Amiga dealers are "ripping people off" when it comes to generic hardware.



It looks sleek and stylish, but the odd power arrangements are a pain, the SCSI connection is inconvenient and it's a bit pricey.

DISTRIBUTOR: HP 0990 474747
PRICE: £429

OVERALL VERDICT:
Overstyled, overpriced, but sturdy and solid. And it's got lots of lights.

81%

SO HOW DO THEY COMPARE?

DRIVE	TEAC R50S	D2 2x6x CD-R	TRAXDATA 4600	TRAXDATA 2600	ONE 4XS	HP SURESTORE 602
Based on (engine)	own	Sony CDR926s	Yamaha 400	Philips CD2600	Yamaha 400	Philips CD2600
Interface protocol	SCSI-2	SCSI-2	SCSI-2	SCSI-2	SCSI-2	SCSI-2
Loading mechanism	Tray	Caddy	Tray	Tray	Tray	Tray
Read speed (nominal)	4x	6x	6x	6x	6x	6x
Read speed (test average)	603k/s	902k/s	1027k/s	944k/s	989k/s	962k/s
Write speed (nominal)	4x	2x	4x	2x	4x	2x
Write speed (test average)	642k/s	287k/s	688k/s	356k/s	676k/s	364k/s
CDDA read?	Yes	Yes	Yes	Yes	Yes	Yes
MasterISO support	Yes	Yes	Yes	Yes	Yes	Yes
MakeCD support	Yes	*1	Yes	Yes	Yes	Yes
Supports *MakeCD* D-A-O?	Yes	No	Yes	Yes	Yes	Yes
MakeCD repair?	No	*2	No	*3	No	*3
Price	£564	£411	£449	£300	£500	£429
Similar drives:	Pinnacle RCD4x4	Sony CDU960s	Yamaha 400	HPSurestore	Yamaha 400	Traxdata 2600
		S&FCDR2006		Wearnes 632p		

*1. Although *MakeCD* recognises this drive, and uses the appropriate driver, the test unit failed to work properly with *MakeCD*.

*2. *MakeCD* documentation implies this is possible, but we were unable to test due to note 1 above.

*3. Theoeretically this is supported, but it failed to repair any of our dodgy CDs. Obviously, this is a last desperate measure, and isn't guaranteed to work every time.

Workbench

Inspired by our features but not too sure where to start? Graeme Sandiford is the man with all the answers regarding housing your Amiga in a tower. Send any queries to: Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

SPEED AT ALL COSTS

I want the fastest hard drive available – not the biggest or the cheapest. I don't mind whether it's IDE, via the Eyetech 4-device buffered interface, or via my existing Surf Squirrel – either will be fine. I intend to use it for playing animations straight from the hard drive, so you can see why I need it to be fast.

I also intend buying a DeskJet printer – I have my eye on a Hewlett Packard 690C. Are there any suitable Amiga drivers for this, and if not, what would you recommend for the same type of quality?

Simon Holt
Cheltenham, Glouc.



Generally, the larger the hard drive is, the faster it goes.

When it comes to hard drives, speed is a rather tricky factor to judge as the standards are improving all the time. I would guess that a SCSI drive would have the edge though, and you should contact HiSoft – the makers of the Surf Squirrel – to see what kind of drive they recommend.

If you decide to put your Amiga in a tower then you'll find that 3.5" IDE drives are hardly slow, especially modern ones which are fitted with a drive mechanism which rotates extra quickly. You will need a faster processor to make the most of the IDE drives, as disk speed does seem to depend on the speed of the 680x0 which is driving it.

I don't know of any driver software specifically for the HP690, although you should try TurboPrint *from Wizard (01322 527800). Also, Eyetech (01642 713185) sell* EnPrint *for the Epson range of colour printers.*

MAKE A LIST...



I'm really keen to improve my machine's capabilities for accessing the Internet so I can really get the most out of it. I am hoping to purchase *Netconnect* soon but where do I go from there? Could you please produce a rank-ordered list that will help me in my quest?

Gareth Webster
Monmouthshire

If you intend using the Internet, you'll want to perform a little Web browsing. Nothing speeds this up more than a graphics card, so that would be top of my list. That said, if the modem doesn't work at least at 28.8Kbps, then swap it at once. As for software, the first thing I'd rush out and get is the latest version of* Directory Opus *– it can make using FTP sites a great deal simpler.

DISK DIED

The floppy disk drive on my A1200 appears to be malfunctioning. I get a read out that says items are not being read. This applies to several disks, so it appears to be a drive problem. None of the local "experts" can confirm the defect, or in fact want anything to do with the Amiga. Several claim that the Amiga does not exist, having been bought up by some unknown organisation. I am hoping that you can tell me the name and the location of anyone who can repair my unit.

T. Nesbitt
Inverness

Yes, the Amiga has been bought and sold and now belongs to Gateway 2000: hardly an unknown name to PC dealers. However, Gateway won't be interested in trying to fix broken A1200s. Instead, try one of the advertisers in the back of Amiga Format, such as Dart Computer Services (0161 247 0059) or First Computer Centre (0113 231 9444). Alternatively, buy a replacement floppy (less than £30 from either of these guys) and fit it yourself.



If you're looking for a monitor then the best option is probably a suitable multiscan because it supports all Amiga graphics modes.

VARIABLE DISPLAY UPSET

1. What brands of VGA monitors are known to work with an A1200 eg, ViewSonic?
2. If I purchase a VGA monitor without speakers, can I purchase speakers with phono-style connectors from the Amiga's left and right audio jacks? Where would you purchase these from? If you can't get speakers like this how do I get Amiga audio? Are there ports at the back for speakers?
3. Will future games (eg, *Foundation*) work with 31.5KHz modes?
4. Shall I just go for a multiscan (expensive) monitor so I can use the two games I possess, (*Breathless* and *Worms*), or a Philips/CBM 15KHz monitor?
5. What are the differences between VGA and SVGA and will it matter?
6. Will the Icontrol prefs mode promote all OS-friendly applications?

N. Lamburn
Braunton

1. Hard to say, because some will and some won't. Even with two monitors badged as the same, some will work and others won't. Yes, it's annoying but sadly that's the way it is. All I can say is that my personal Tatung Ultra Scan Plus 15" SVGA monitor works fine. Your best bet is to try a local dealer and plead with them to let you try it. Either that or go the whole hog and put your A1200 in a tower and buy a graphics card.

TOWER POWER

I have recently purchased an A600 with a measly little 72-pin Simm card with 2Mb of Ram on it.
1. Could I upgrade this card with extra chip RAM or would I have to buy another 72-pin SIMM card?
2. My uncle has just bought me a Hitachi double CD-ROM but it is only a single speed drive! Is it compatible with my Amiga?
3. When reading your last issue (*AF99*), an idea crossed my mind. Would it be possible to house the A600 in a tower and add a Zip drive and a few ZorroIII slots? If I could, would I be able to fit an external Amiga 2/3/4000 keyboard via the A600's normal keyboard plugs and how much would all this cost?
4. Whenever I use my Amiga for over half an hour it starts to get rather warm in the middle and to the left hand side (assuming you have your Amiga the correct way up), could it be the processor chip overheating?

Paul Wood
Huddersfield

1. No, sadly you can't upgrade the A600 beyond this amount of memory. In fact, you can't upgrade it beyond 2Mb of chip RAM in total so the SIMM is actually a 1Mb SIMM as there is 1Mb soldered to the motherboard. There was an accelerator for the A600, but it didn't work very well.
2. A double CD-ROM? It holds two CDs at once? Neat. Single speed is not the issue. It's more important to check if the drive is IDE or SCSI. If IDE (a 34-way connector at the back) then it might be possible to connect it to the A600's internal IDE interface (contact Eyetech on 01642 713185 and ask for details). If SCSI (a 50-way connector) then you'll need to buy a SCSI interface such as the Squirrel from HiSoft (01525 718181).
3. The A600 is not the ideal Amiga to tower-ify. It is not possible to fit Zorro slots to it, as the trapdoor expansion is considerably more limited than that on the A1200. You could, theoretically, connect a new keyboard and a Zip drive, but you would be far better off using the money to buy a second-hand A1200, if at all possible.
4. Most electronic devices get warm. If the processor was overheating, the computer would start misbehaving with random crashes or lock-ups. Make sure there is adequate ventilation around the computer (don't use it sitting on a carpeted floor) and all should be well.

I am interested in buying a tower, like the one shown in AF99, for my A500.
1. Can you tell me whether I can put my A500 in a tower like Eyetech's?
2. Can I attach my A500's keyboard to the K/b adaptor of the tower?
3. Does the tower include an A1200 motherboard? If not, where can I find one?
4. Which parts of the tower (like adaptors etc.) must I buy first?
5. Can I buy a Blizzard 1230 for my A500?

Steve Nakoutis
Greece

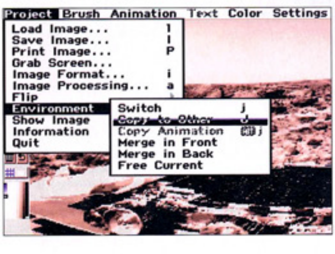
1. Yes, you could theoretically house an A500 in a tower case similar to the one sold by Eyetech. However, the Eyetech case is specially adapted to suit the A1200 – the A500 is a different shape and so it would be quite a task and really not worth the time or trouble.
2. No, the adaptor is designed for the A1200. However, the A500 keyboard is attached via a set of leads and it is a relatively simple matter to detach these from the motherboard and attach some extensions.
3. No, the tower does not include an A1200 motherboard. You'll have to find your own – inside an A1200 is the best bet. There are plenty of second hand examples around.
4. You need to get the motherboard first, no question about it. Then you need to buy the tower case, then the keyboard adaptor. After that, it's entirely up to you.
5. No. The Blizzard board is only for the A1200.



If you want to build your own tower of power then it really needs to have an A1200 inside.

2. Speakers are easy to get: try First Computer Centre (0113 231 9444) who sell the ZyFi speakers.
3. Some may – it depends on the game.
4. A suitable multiscan is really the best option, because it should support all Amiga graphics modes. Be careful though, most multiscan monitors work in specific ranges, so ensure it covers those that you need. The Philips 15KHz monitors are still better than a TV, so if you see one cheaply enough go for it.
5. VGA uses digital colour, which limits the colours which can be displayed, and is limited to certain frequencies which means low resolutions. SVGA supports analogue colours, so displays as many as needed. You don't want a VGA monitor, no matter how cheap. It's probably knackered by now anyway.
6. No, it won't. A Shareware program such as New Mode *does a much better job, but you still find the occasional program which isn't supported. And all games of course.*

Personal Paint's probably not the problem if you are having trouble printing – check your printer driver.



MORE A600 UPDATES

I'm thinking of getting rid of my old A600 and buying a second hand A1200. First, could you answer a few questions for me?

1. Do you know of any place where I can purchase a second hand A1200 for about £100-£150 and the address or phone number?
2. I have recently purchased a Power Computing 2-speed CD-ROM drive. It came with *Diggers*, *Oscar* and *Chaos Engine* CD32 games but I'm unable to play them due to the lack of an AGA chip in my A600. Will they work as well as other CD32 games if I get an A1200?
3. I have a Citizen ABC colour printer. When I print pictures using *DPaint 4* or *Personal Paint*, it prints the line of colour, but then prints a black line over the top before going onto the next line. I am using an *Epsom X* or *Epsom Q* printer driver. Can you tell me of any PD libraries where I can buy a Citizen ABC printer driver?

Continued overleaf ➡

4. On *AFCD11* you gave away the *Alien Breed 3D* source code. I didn't have a CD-ROM drive then so I didn't buy that issue. If I sent for the back issue would I be able to play the game on my A600 and, if so, how do you compile the source code.

Keith Forrester
Walsall



Both *Final Writer* and *Wordworth* are excellent word processing packages, capable of some really impressive effects.

Good idea – and about time. The A600 is outdated by several orders of magnitude in these enlightened times.

1. No, sorry. Try placing a "Wanted" ad in your local paper or scouring the new Reader Ads section in Amiga Format – see page 102.

2. They should work. It really depends on the support which the driver software which came with the CD-ROM drive provides, but making CD³² games run is high on the list. You should be fine.

3. Sorry, I haven't found any Public Domain drivers. Try contacting Wizard (01322 527800) regarding TurboPrint *or speak directly to Citizen.*

4. Unfortunately we don't stock back issues back that far – try sending in a Reader Ad. Yes, you can compile the source code.

BLAST FROM THE PAST

Way back in December 1992, you attached a disk called *Scribble!* to the front of the magazine. I put it to one side and then recently "re-discovered" it, tried it out and liked what I saw. I decided to get the manual, that you mentioned was available from HB Marketing.

No luck with the number in the mag but I found an address in Slough for the company, unfortunately my mail has been returned as "unknown." Discussing the matter in my local computer shop I discovered that they had a copy of the *Platinum Works!* manual. This is where I got the address from, which has been helpful in sorting some things out but I am still unable to run the Spell Checker or Thesaurus.

Is there anyone in the office with a grey beard who can tell me whether or not I have the right manual. The references appear to match apart from the fact that all refer to *Platinum Works!* but I am unable to run the extended programs. Any assistance would be most welcome, even if it only confirms that *Scribble!* and *Platinum Works!* are from the same stable, in which case I will write to the fountain head (Micro-Systems Software Inc. in Florida) or if you have a recent address for HB Marketing, I could try them as I appear to require the *Platinum Works!* disk to get things moving.

R. White
Herts.

As far as I can remember, Scribble! *and* Platinum Works! *were closely related. However, the companies behind them have long since vanished. The main reason was that the software wasn't terribly good to be honest. Certainly, when compared to something like* Final Writer *(from Harwoods 01773 836781) or* Wordworth *(Digita 01395 270273) it's pretty obvious how far things have come. I strongly advise you to avoid wasting your time on* Scribble! *and consider something more modern.*

A1200 NEWBIE

I was recently given an A1200 with a hard drive, a 3.5" 1Mb external floppy drive and a CD-ROM drive.

1. When loading *Soliton* (AFCD15) I get a prompt saying: "Screen too small for this cardset." Does this refer to my television set which I use as a VDU?

2. I have had problems using *AFCD10*, to create fonts for use with my paint program, (*DPaint 6.4*). I can create a font but I don't know how to save it. I click on "save" and a prompt comes up to say "create it." Must I put it on a floppy disk? If so, how do I do it?

3. What does "failed return code 10" mean? Should I type something after the prompt?

P. J. Longley
Middlesex

Good luck with your new toy, and feel free to ask questions!

1. Not necessarily. It could mean



Connecting a CD³² to an A1200 requires some software called *SerNet* – contact any good PD library.

CD LINK-UP

I own an A1200 and 2Mb of memory. Also, I own a CD³². I have been looking through old *Amiga Format* magazines to try and find a cable to join the two to make a CD-ROM. If these cables are still available, could you give me the cost and an address where I could get them from? If they are not available, could you tell me of something else that will do the same sort of thing?

Fred Crawhurst
Brighton

I own a basic A1200 with 2Mb RAM and a CDTV with 1Mb RAM. My query concerns the possibility of connecting the A1200 to the CDTV to use the CD drive. I hope you can help.

1. Which cable do I use and which points must I connect?

2. What problems may occur and how compatible will the systems be?

3. Will I be able to run CD games through the system?

Mr P. Wade
Durham

It's always worthwhile connecting a CDTV or CD³² to an Amiga, as it provides a cheap and easy way of reading CD-ROM discs, without buying a dedicated CD-ROM drive. The downside is that connecting the CD-ROM in this way is quite slow, and it is not always possible to play CD-ROM games as they might depend on instant and fast access. However, it's still worth doing – especially as it means you can use the AFCDs.

The CDTV is the simplest to connect. You'll need a program called* ParNet*, or one of the many similar and enhanced utilities. You'll also need a suitable cable made up (details are included with the program), and an external floppy disk for the CDTV (unless you happen to have the ParNet program on a CD-ROM).

ParNet is freely distributable, so ask your favourite Public Domain library or seller of Amiga CD-ROMs.

Connecting the CD³² is similar in many ways, but instead of ParNet (which uses the Parallel Ports) you need to use SerNet (which uses the CD³²'s keyboard interface as a Serial Port). Ask a dealer such as Weird Science (0116 234 0682) to help you with the necessary software and cables.

A Quick Guide to...

AMIGA AUDIO

1 The Amiga has its sound generation hardware built in, as part of the custom chip set.

2 The Amiga can replay up to four sounds at once. Each sound is 8-bit, which means 256 different volume levels are possible. Various tricks are possible under software, which means you can have up to eight sound channels (with a program such as *OctaMED*) or even combine channels to give the effect of 12-bit sound.

3 You can capture your own sounds and replay them. You will need an extra item of hardware called a "sampler", which takes an audio signal from a microphone or personal stereo and converts the sound to digital information.



Realtime effects are fun, even if you can't save the resulting sounds. Find out more about Amiga sound on page 24.

4 Two sounds are sent to the left audio output, two to the right. The audio outputs are standard "Phono" style sockets. The output levels are perfect for connecting to the AUX input of a hi-fi or music centre.

5 If you want to hear your Amiga without connecting it up to the hi-fi, you can buy a set of speakers for less than £30. These are usually battery powered and connect to the phono output sockets.

6 Many monitors have speakers built in to their casing. The monitor will have a set of inputs for the audio signals, and a suitable lead is often included as part of the video connection.

that the screen mode which the Amiga Workbench is set to is too small. Try opening the Prefs directory, and running the Screen Mode *program. Change the mode to PAL: Hi-Res Laced and see if that makes a difference.*

2. You will need to copy the font to the same location as your own fonts. Specifically, this means in the fonts: directory on your Workbench disk (or, better still, a copy of the Workbench disk).

3. You don't need to type anything. It just means that a command, probably in an AmigaDOS script (a collection of commands stored in one file) hasn't worked as expected. It sometimes happens when the computer is booting up, if a reference is made to a program or command which is no longer present.

PESKY MUT

I have an A12000, Blizzard 1230 IV with FPU, 18Mb of RAM, 1.2Gb hard disk, Eyetech CD plus 8-speed CD, 2 x external drives, Citizen Swift 240C printer and a 230W power supply.

1. I am thinking of further upgrading my system with a 17" monitor. Would this be a good idea?

2. I have recently tried to load the freely available version of the *Magic User Interface 3.7*. All goes well until I try to open the program from hard disk. On completion of the installation program it told me that it was correctly installed, but on trying to open it I receive the message: "Cannot open your tool mut." In other programs, this would not be a problem, as I would just go to the 'C' drawer. But there is no MUT tool in any version that I have found.

3. I am thinking of moving my Amiga to a tower case with the addition of Zorro slots. What are the differences between ZorroII and ZorroIII slots?

4. What benefits are there in moving from Workbench 3.0 to the latest version 3.1? I hope you can help me with these problems.

Juan Clague
Ramsey, Isle of Man

1. The MicroVitec GPM 1701 (AF97) is very good value for money at the moment, but beware of monitors that won't sync down to 15kHz.

2. As for MUT, I think you mean MUI, as there is no "Mut" utility that I know of. This could be because it hasn't been installed correctly, the startup assigns haven't been run or a Max Transfer rate problem with the hard disk. There is also a newer version now – MUI 3.8.

3. ZorroIII slots are faster than ZorroII, being true 32-bit. As such they offer greatly enhanced speed, but we still haven't seen a good ZorroIII implementation for the A1200.

4. Workbench 3.1 includes, amongst other little bits and pieces, a CD-ROM file system and better Workbench support for graphics cards. I'd wait and see if the promised Workbench upgrade from the Amiga's new owners appears.

IF YOU HAVE A QUERY...

At *Amiga Format* we aim to answer as many questions as possible. Unlike some magazines, we don't just concentrate on our areas of expertise – we take on all your problems (as long as an Amiga is involved).



Graeme Sandiford

Here are a few tips on sending in questions:

- Be concise.
- Detail the problem as best as you can.
- Describe the events that caused the problem.
- Give full details of your equipment.
- Make sure your question is relevant and wouldn't be more easily solved by contacting the dealer from whom you bought the goods.

Bear these points in mind and fill in, photocopy, or copy the form below as best you can. Unfortunately we cannot reply personally.

Send your letters to Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Your Amiga:

○ A500 ○ A500 Plus ○ A600
○ A1000 ○ A1200 ○ A1500
○ A2000 ○ A3000 ○ A4000

Kickstart version

○ 1.2 ○ 1.3 ○ 2.x ○ 3.x

Hard Disk: .... Mb

Manufacturer: ....

Extra RAM fitted – type, size, (Mb) and manufacturer:

....

....

Details of other hardware:

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Amiga.net

Dave Cusick explains how you can use your Amiga to help run an IRC channel.

AFCD18:-In_the_Mag-/Amiga.net

ON THIS MONTH'S CD

Everyone has some bad habits. Some people pick their noses when they are sat in their cars in rush hour traffic jams. Some people bite their fingernails. Some people shake their leg violently up and down when they are sat talking to you in the pub. In fact, I'm guilty of at least one of those bad habits myself... but that wasn't what I was leading up to.

The fact is, I have a confession to make. The reason my telephone bill is so high is not because I spend every waking hour talking to a girlfriend in Edinburgh, or because I keep in touch with hundreds of friends around the country better than anyone else; I'm not very good at staying in close contact with distant friends and relatives (unless they've got an email account!), and I don't have a girlfriend in Edinburgh. The reason my telephone bill tends to scare me is that I have developed an alarming fondness for late night IRC, (Internet Relay Chatting).

I suspect the habit is fuelled by alcohol consumption prior to my arriving home, turning on my Amiga and clicking the online button on my *NetConnect* tool dock. One of the reasons I'm so fond of alcohol is probably because I find it makes me want to talk to people more, and when the pubs have all shut and you don't have the money, the energy or the inclination to go to a nightclub then IRC can provide an excellent diversion for chat-hungry insomniacs.

"Most established channels have their own bot to help keep things in good working order."



Apparently this is what *Amibot* looks like, if you can actually manage to get it running...

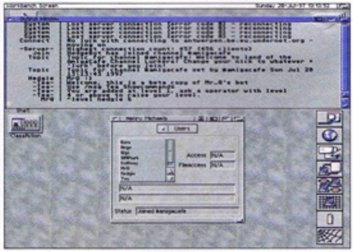
NO LIFE!



That probably all sounds remarkably sad; and I've probably given you the impression that I don't have any sort of life to speak of. In fact, that's not the case (honestly)! It's just that IRC has incredibly addictive properties, quite apart from the fact that it allows you to communicate, virtually in real time, with netizens all around the world.

As IRC regulars will be aware, most established channels have their own bot to help keep things in good working order. A bot is a computer program which creates a virtual "user", which sits in a channel and awaits instructions. Its tasks might ordinarily include automatically Op'ing (that's awarding operator status to) certain people, enforcing bans and therefore stopping unwanted users from entering the channel, logging the conversations that take place within a channel, offering help to IRC newbies, and so on.

Bots do not require a human operator to be present, although they will obviously only be present on a channel while the machine on which they are running is connected to the Internet. It is for this reason that most IRCers don't even think about the possibility of running their own bot, but if your favourite network permits bots and you fancy taking some of the work of channel management into your own hands, then it's worth considering, even if it's only connected to the network whenever you are. There are a handful of bot programs available for



The MUI front-end makes *Henry Michaels* an extremely pleasant program to work with...



The BearConfig configuration utility for *Henry Michaels* should make setting up the finished version a simple task.

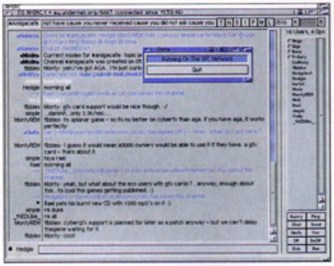


...and, as you can see, you don't need to be running a dedicated IRC client such as *AmIRC*.

"If, as an Op, you don't want to grant too much power to someone... make sure they have only Normal access privileges."

the Amiga. If you hunt around in comm/tcp, the aminet directory in which bots can be found, you will come across programs called *AmiBot*, *Henry Michaels* and *Ilona*.

AmiBot is currently at version 0.991, although the version on Aminet is slightly older than this. I've tried playing around with the program but with little success, because it tends to crash with alarming regularity on my machine.



There isn't much to see when *Ilona* is running, but at least this means you can get on with your IRC'ing in peace.

The Aminet version of *Henry Michaels* is an early beta version of an extremely promising bot by Rune Jacobsen. The MUI interface makes it the most attractive bot currently available and it will display the goings-on in a channel without you having to load a dedicated IRC client. In its current form though, there are several known bugs, and many features have yet to be fully implemented. So for the purposes of this article, I shall be focusing on Tristan Greaves' *Ilona* which is currently at version 1.3, making it (to the best of my knowledge) the only non-beta bot for the Amiga at the present time.

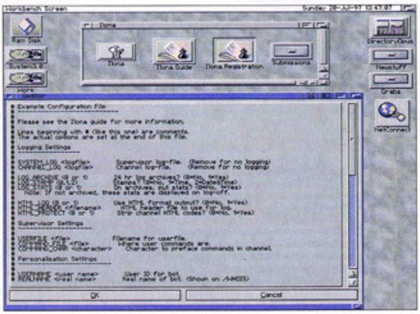
It's stable, highly configurable and easy to get up and running. It should run under any TCP stack, and it's been extensively tested in the field by virtue of the fact that it now sits in the #amigacafe channel, twenty-four hours a day.

EDIT THE TEXT

After downloading *Ilona* from Aminet, de-archiving it and running the installation script provided, you'll need to make a few changes to the text configuration file. Using a text editor such as *GoldEd*, *CEd* or *MEmacs*, you should change the Username and Realname settings. You will also need to choose a server and port number for *Ilona* to connect to, a channel for the bot to join, and a nickname by which it will be identified. Finally, you should scroll back towards the top of the configuration file and choose a suitable control character which will precede all the commands you issue to the bot. (Something like + or £ might be suitable.) For your first test run, the other options can be ignored.

Actually running *Ilona* is extremely straightforward. Once your TCP stack is running, go online and fire up your IRC client. Connect to your favourite channel as usual, and then flick back to your Workbench and double-click on *Ilona*. The bot will take a few seconds to check through the configuration file before starting to connect to the server. In a short while your bot should join the channel, and you'll be able to issue your new servant commands.

The range of commands which *Ilona* supports at the present time is not as huge as with some other bots I've encountered on my voyages around the IRC networks, but for anyone with Op status in an established channel or the desire to set up their own channel from time to time, all the essentials are there. For instance, if your command character was "+" then typing "+kick idiot stop flooding the channel!" would cause the individual using the nickname to be dumped from the channel with a brief, but easily understood, explanation. If you take a look in the Submissions drawer you will find a large User configuration example file which hints at some of the possibilities of the Ilonascript command language. Bot commands can of course be made available to other channel users, and the amount of commands available to any particular user can be specified in the User configuration file. *Ilona* divides users into three levels: God, Privileged and Normal, and if, as an Op, you don't want to grant too much power to someone else then all you need do is make sure that they only have Normal access privileges.



There is no handy configuration program for *Ilona*, but editing the well-commented config files is not a complicated task.

If you read the documentation thoroughly you will realise that the distributable version of *Ilona* places restrictions on the number of users you can include in your User configuration file. At the present time, registration for the full version is free, but in the future there will be a £10 registration fee, and if you end up using the program regularly you would certainly be advised to register as soon as possible to encourage Tristan to continue developing the program.

UPDATES

For forthcoming updates, Tristan intends extending the Ilonascript commands system, adding DCC support so as to allow *Ilona* to work as a file-server, and implementing a powerful ARexx port. These additions would ensure that *Ilona* could handle most of the things that *Henry Michaels* will have by the time it is complete. Since well-configured bots can provide so many helpful services for all the users on a particular channel, some healthy competition between the two programs would be extremely good for all Amiga IRC regulars.

And it looks like there's even more choice on the horizon. It seems that #amigacafe, home of both Tristan and Rune, is a breeding ground for bots. Another regular, Stephen Evans, is developing an ARexx bot called *Tea* which has an impressive array of commands in its armoury. He hopes to upload the finished version to Aminet and, from what I've seen, it'll provide more readily- accessible functionality than any of the stand-alone bots.

SITES OF INTEREST

Amibot homepage –
http://www.hgs.se/~na94jed/amibot.html

Henry Michaels homepage –
http://www.image.no/~runej/henry.html

Ilona homepage –
http://whirligig.ecssoton.ac.uk/~tmg296/ilona/

CONTACT POINT

I can be reached with comments, suggestions and feedback at dave@dcus.demon.co.uk. I also have a Web site at:
http://www.dcus.demon.co.uk/

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We pride ourselves in offering superb after sales support to all our NetConnect/Internet users. We guarantee you will not get better **free** Internet related support from any other rival company. Support via telephone (Mon-Fri 10am-6pm), e-mail, mailing list (general NetConnect forum) and the web site (www.amigaworld.com/netconnect).

Our aim is to help users with their Internet connection **after** they have purchased Net Connect and we understand that the Internet can be a daunting experience for the beginner.

Issue 2 of our Internet magazine 'Internet Informer' should be available within September. This is a quarterly magazine with the latest information about the Internet and your Amiga - NetConnect users receive this magazine free of charge!

NetConnect v2

NetConnect v2 is even easier to connect to the Internet! Launch the new Wizard GUI, choose your modem, enter a few user details and let the Wizard do all the rest for you! Simple, with version 2 you don't even need to worry about the provider - everything is automatic, everything is point and click! **Amiga Format** concluded about **NetConnect v1** (June 97 issue): "Almost the perfect package for the Amiga Internet user", "If you need to get online, this is the easiest way to do it" and "It's good value for money too - especially the bundle including the 33.6K modem." We have listened to our NetConnect v1 users, noted their comments and added some other new features. NetConnect v2 is available on CD-rom and floppy disk. **Specifications include:**



AMITCP v4.6 DIALUP
AmiTCP is a new full TCP stack, enhanced and developed by us and NSDi with full GUI control!

VOYAGER-NG
Voyager Next Generation is already powerful with javascript, frames, tables, SSL (https:) etc!

MICRODOT-II
A superb and brand new commercial email and news client, said to be the best for the Amiga!

AMFTP
The industry standard FTP client and the number one FTP program on the Amiga.

AMIRC
Again, the industry standard Amiga IRC client - said to be better that its PC and Mac rivals!

AMTELNET
Use AmTelnet to maintain your web site, connect to external computers, play online games!

NET INFO
NetInfo is a new program by Oliver Wagner to search the net - traceroute, ping, services etc.

AMTERM
AmTerm is a comms program - connect to a BBS, send files to your friends Amiga/PC/Mac!

X-ARC
Brand new DOpus like archive management tool which integrates with the NetConnect package!

- **New AmiTCP** - NetConnect v2 users will be the first people to use a version of the new AmiTCP! We have added a number of changes to this new version - the main additions are the new Wizard, MUI based dialler and 'events' control.
- **AmiTCP Wizard** - makes configuring your ISP a doddle. Choose your modem, enter some user details and then the rest of the process is completely automatic! This is true Windows95™ style connectivity! See the two example pictures - point and click Internet configuration!
- **New programs** - NetInfo and X-Arc (X-Arc is a brand new WinZIP™ style archive management tool. Downloads lha/lzx files from Voyager/AmFTP/Microdot-II, auto-extracts them into X-Arc's GUI and allows you to control the files.
- **Programs are now keyfile based** (can be used with any TCP stack - Miami etc)
- **Extras pre-configured**: MIME types (CD only), datatypes (CD Only), online help files etc
- **Updated, latest versions of the modules** (Voyager, Microdot-II, AmIRC, AmFTP etc)
- **Printed installation/introduction guide** - install NetConnect quickly and easily
- **Printed manual** - using the Internet and NetConnect
- **Plus many more smaller changes and additions**



Wizard - Loginscript Recorder



Wizard - Configuration Completed

NetConnect v2 CD [contains many extras: datatypes, MIME types (for www browsing) and much more]		**£52.95**
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NetConnect v2 Upgrade from v1/v1.1 [registered NetConnect v1/v1.1 users only]		**£call!**

STFax Professional [available September] £29.95

STFax Professional is new commercial fax program for the Amiga containing the sort of advanced fax features you would find within commercial PC fax software. STFax has been in the shareware for the last few months, and the brand new commercial "professional" version offers even more advanced features plus some voice control for voice modems.

- Support for all modem classes (1, 2, 2.0)
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- ARexx port
- Datatypes support for image conversion
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- Viewer for viewing outgoing/incoming fax messages
- Plus many more features

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Hypercom 3

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PK05	33.6 Modem & NetConnect & Hypercom3Z & STFax	£159.95

ADD £25 for a 56k Modem (instead of the 33.6k model)

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WANT MORE INFORMATION?

We provide an information pack covering NetConnect and the modules (Voyager, MD-2 etc), the modems we offer, connectivity discounts and a set of frequentely asked questions and answers. Ask us to send you an info pack!

You can also access the NetConnect homepage for additional info, latest news and to download a time-limited demo version of the software: **http://amigaworld.com/netconnect**

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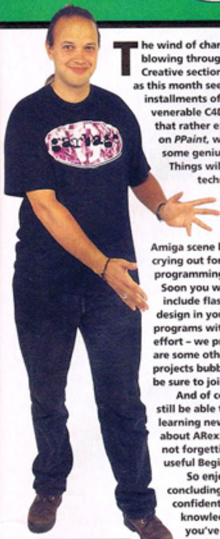
If you are not interested in buying NetConnect, you can still buy Vaporware Products individually:

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- Other Vapor titles available - http://www.vapor.com for further information

The indispensable guide to getting the most out of your software

CREATIVE



Nick Veitch

The wind of change will be blowing through the Creative section very soon, as this month sees the final installments of the venerable C4D tutorial and that rather excellent series on *PPaint*, written by some genius or other. Things will be taking a technical turn and we hope to bring you the first in a series the Amiga scene has been crying out for – programming using *MUI*! Soon you will be able to include flashy interface design in your own programs with very little effort – we promise. There are some other little projects bubbling under, so be sure to join us then. And of course you'll still be able to continue learning new things about ARexx and *DOpus* – not forgetting the very useful Beginner's guide. So enjoy our concluding chapters, confident in the knowledge that you've learnt some useful new computing skills. Oh yes, I'm running out of T-shirts, so if anyone from a nice clothing company would like to send me some, I'm sure everyone would be very grateful...

SEND IT IN!

We need YOUR input.

Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

ARexx
Commodore's excellent decision to include Arexx with Workbench was only matched by their stupidity in not documenting it properly. If you are having trouble why not write to us with a description of what you are trying to do.

Paint Packages
Unsure of how to get a particular effect? Do you think there must be an easier way? Our experts could help.

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Surely some of you have some questions about our latest giveaway?

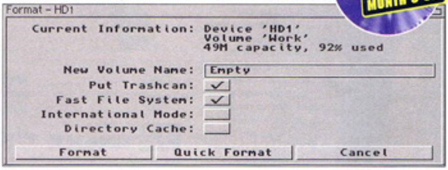
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Beginners Guide

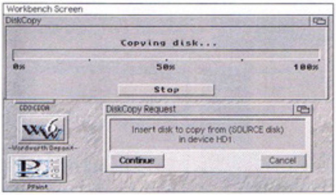
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Whether they be floppy or hard, Robert Polding reveals everything there is to know about disks.

ON THIS MONTH'S CD: AFCD18:-In_the_Mag-/BeginnersGuide



So much to do and so little time...



Save yourself potential grief and make copies of all programs on your floppy.

Disks are what a computer uses to store data, and different disks perform different tasks. By now you should have learnt how to use at least one type of disk, whether it be a floppy, hard disk or CD.

We all have floppy disk drives on our Amigas, of which there are two types in use today: DD (double density) and HD (high density). These are physically the same but HD can store double the amount of data. Unfortunately most Amigas come with DD drives and you can't access HD disks through them. The solution is to buy an HD external disk drive (although a hard disk is now a similar price and this should be your priority if you don't have one already). In my opinion the only real use for floppy disks today is to transport data from one machine to the next. Given that hard disks and other storage devices are so reasonably priced it's essential not to rely on floppies.

No excuse for losing work with this much help around.

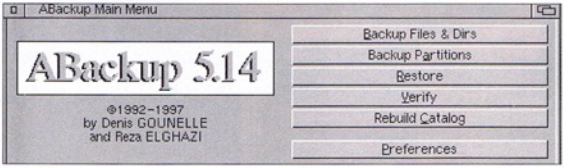
HANDLE WITH CARE

It is important to care for your disks, as they are easily damaged. Use a disk box to prevent dust building up and never move the metal panel or touch the actual disk – this could permanently damage it. One type of software that I will discuss later is the recovery program, e.g. *DiskSalv* or *Quarterback Tools*. These attempt to repair damaged disks or recover deleted files (as a last resort) and are often very effective.

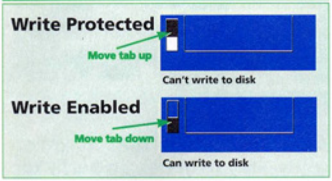
Floppies have a tab (see picture) that allow you to either 'Write protect' them (when a hole can be seen) or 'Write enable' them (when the tab covers the hole). The former means no data can be written to the disk and the latter allows files (or whole disks) to be copied, renamed, edited or deleted. Make sure all your original disks are write protected (you can see the hole) so nothing can be deleted.

When you buy a new program on floppy, don't use the original disk; instead make a backup. This is very easy using either Workbench or a copying program (such as *XCopy* or *SuperDuper*). For example, to backup the Workbench disk you first load it up. Single-click on the icon and select the item 'Copy' from the 'Icons' menu. Next select 'Continue' from the requestor that asks for the Source disk, and copying will commence. When the destination disk is requested, insert a blank disk (write enabled) and again click 'Continue'. Remember, if you don't have much memory on your computer you will have to repeat this process. Eventually a disk icon will appear called 'Copy_of_Workbench.' Make sure you repeat this for all your master or original disks (except for games that cannot be copied).

To rename the disk, click on the icon once and select 'Rename' from the Icon menu. When a requestor appears, you can edit the name, changing it from 'Copy_of_Workbench' to 'Workbench', and press return.



PROTECTING DISKS



If you want a disk blank to store your own files on, you will have to format it. To do this, get another blank disk, insert it, single-click the icon and select 'Format disk...' from the icon menu. A selection of options will appear and you can choose a name, whether a Trashcan will appear and the type of disk. The *FastFileSystem* means the disk is a bit more efficient. The 'Quick format' option is for disks that are already formatted for the Amiga, and this formats the disk in seconds. The main downfall of this is that the disk is not verified (or checked) and therefore errors will not be detected.

It is very important to understand that when you format a disk you lose all the information on it, so be careful! Just remember: after you've selected the 'Format' button and confirmed the requestor, there is no going back.

"...the first expansion you should buy for your Amiga today is a hard disk."

HARD TIMES

The first expansion you should buy for your Amiga today is a hard disk. This is like a massive ultra-fast disk – but the speed does depend on the type of interface. Some machines, such as the A1200HD, already have a hard disk fitted but if you don't have one you must get one! There are two main types of hard disk available: IDE and SCSI. The A1200 and A4000 come with an IDE interface, and the A3000 a SCSI one. IDE hard disks are a bit slower but the actual disks are cheaper. In addition, for an A1200 to use SCSI an extra interface (such as the Squirrel) is required. SCSI is more versatile, and can cope with several peripherals at once, e.g. a printer, network and hard disk together but this is really for more advanced users, and beginners will be happy with IDE.

You must also decide what size hard disk to use. Ten years ago people would never have believed that a 1.3Gb (Gigabyte – 1024Mb) would cost about £200, but today PCs come with massive 3Gb hard disks. In comparison, the Amiga is an efficient machine with disk use (Workbench uses only 6Mb of space compared to Windows which requires a ludicrous amount of space), and a 200Mb hard disk is usually sufficient (unless you want to store 24-bit images and animations).

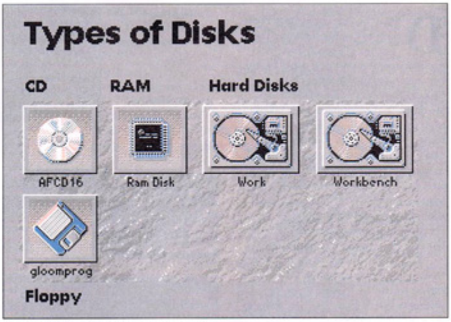
Hard disks will improve both productivity and games and once you've used one, believe me, there is no turning back. Examples of hard disk-compatible software include *Wordworth*, *Gloom*, *PPaint* and *TurboCalc*.

Once you get a hard disk it will need to be split into sections or 'Partitions'. In the screenshot you can see there's only two (Work and Workbench) but you can have as many as you want (larger hard disks need more to help with organisation). Please note: you cannot change partitions without wiping the disk, so don't try unless it is new. To add or change partitions you need to use the *HDToolBox* program provided on the Workbench install disk but usually disks will come ready for use and are better left untouched until you have full knowledge of the Amiga.

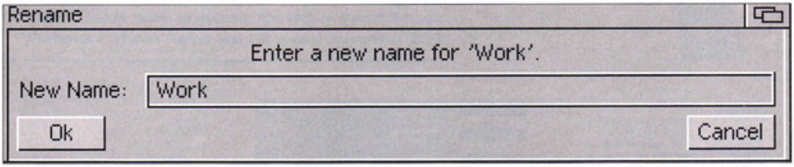
Hard disks are usually very reliable but once in a blue moon they go wrong, which is why you must make regular backups. I use the excellent *Quarterback*, but PD tools such as *ABackup* are available, and there is the bog standard *HDBackup* program provided with your Amiga which will do if you're desperate! There is even a system for backing up your hard disk onto a video tape, which is innovative and cheap (contact Power Computing on 01234 851500).

You will need many disks if you use a hard disk backup program and this is where removable cartridges or special disks can be used. There are several available that enable you to use disks storing up to 100Mb of data or more, and these are becoming ever more popular. The Zip drive from Iomega is one such example and costs £149. These devices, while expensive, are an excellent way to back up hard drives and may even replace them one day.

The other major form of storage is CDs – the greatest development of modern times. A CD-ROM drive is the next step after a hard disk. Next month's tutorial is dedicated to CDs so prepare to witness a cheap way of accessing loads of software plus, of course, the *AFCDs*!



They're a good-looking bunch aren't they?



Well, whoever's working on this can't read because the instruction says enter a *new* name for work. Tch.

DOpus 5.5

CONTENTS

The button bank is the place to store all your *DOpus* commands. Easy to get to, and easy to set up. Ben Vost shows you how.

HIDDEN HINTS

DOpus has some settings which don't appear in the usual preferences requestors but which can be useful to set up. They are created by making a text file in ENVARC:DOpus with a number 1 in it (to switch them on – if you don't want these set, you can either replace the 1 with a 0 or simply delete the file). Unless you want to reboot to use these new settings, you can copy your newly created file to ENV:DOpus where *Directory Opus* will take notice of it immediately.

Here are the environment variables (for such is their name) which you can set for *DOpus 5.5*:

UseWBInfo
This is the variable that allows you to replace *DOpus*' icon information requestor with the one that Workbench uses. This option is ideal if you want to use *SwazInfo*.

ShowUseDatatypesFirst
If you don't want *DOpus* to use its own code for viewing IFF files, then set this variable up. Be warned though, there is a drawback. The datatypes aren't nearly as fast as *DOpus*' internal code.

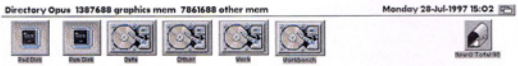
3DLook
This variable helps *DOpus* to cope with *Sysihack* and the like.

DOpus Magellan offers new variables such as HidePadlock, so this list isn't exhaustive, but it does provide all the variables used by *DOpus5.5*.

DOpus' button banks have been responsible for reducing the number of users for *ToolManager*, *AmiDock* and other button bar interfaces for Workbench. Especially when running *DOpus* as a Workbench replacement, they become nigh on invaluable since they can be moved around, closed and re-opened easily and can contain graphics as well as text. Personally, I tend to use text bars since they take up less RAM and load up quicker, but for this tutorial I thought we could have a look at creating an integrated graphical button bar that fits in with your backdrop.

This is actually much harder work than you might imagine, but the results can be worth the trouble if you're willing to give it a try. The first thing to bear in mind is that each individual button in a *DOpus* button bank has to be the same size as all the other buttons in the same bank, so laying a grid down in *PPaint*, *Brilliance* or *DPaint* is a must. The next thing to think about is how much palette you have to play about with. Us graphic card owners are lucky, we could have a 24-bit picture, but AGA and ECS owners have to be a lot more careful. If you are using a *MagicWB* palette I recommend that you make do with the eight colours that this one provides. If you try to create any more than that, your machine will start to slow down.

It's probably best to start by working out which buttons you want in this bank. If you're aiming to replace your existing bank then you are going to need plenty of space, but if you're just going to, say, replace your FTP button bank then you'll probably only need a few buttons. Remember also that unless you like to have a full window around your buttons, you will need to work the vertical or horizontal strip drag bar into the design of your backdrop somehow.





"Us graphic card owners are lucky, we could have a 24-bit picture, but AGA and ECS owners have to be a lot more careful."



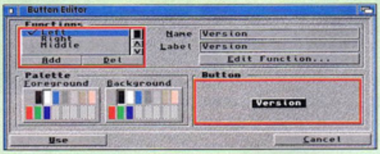
Making your graphical button bank blend in with your backdrop can be tricky, but effective.

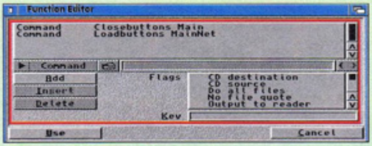


Ideas that came to my mind when thinking about this tutorial included making a backdrop that was full of Workbench windows, so that our full windowed button bank wouldn't look out of place, or using short vertical bars

DRAG 'N' DROP PART TWO

As previously mentioned in these pages, dragging and dropping are good for you. In *DOpus* you can drag and drop to copy files, extract archives, change directory and whatever else you choose to set them up to do. What you might not know is that drag and drop can also be used for configuring your *DOpus* setup – copying buttons, adding functions and more. *DOpus*' button drag and drop features are a bit twitchy, you don't always get the result you're looking for first time, but they certainly are a time saver – no more having to retype out commands, etc.





The red boxes in these two familiar windows show the areas where you can drag and drop buttons to.

to create an abstract "Mondrian-esque" design for the other style. However, the fact is that until there's an option to remove the button bank's bar altogether, integrating your button banks is always going to be a little tricky.

> **"If I was more ARexx aware I could use Miami's ISONLINE command..."**

The example button bank shown uses a picture of a Beretta as a backdrop and the bullet as the button bank. Obviously this only has a single button button bank, but you get the idea.

Of course, there's a lot more to button banks than this. For instance, did you know that if you hold the Alt key down while clicking on a button it will bring it straight up for editing? This means no more having to use the button bank pop-up menu, selecting edit and then choosing the button you wish to edit. One modifier, one click and boomph, you're there. In fact, as far as I'm concerned Jon Potter may as well just remove the "Edit..." menu item altogether. This neat trick also works with the button banks at the top of listers. Just hold down the alt key while clicking them and Robert will be your father's brother!

Also useful to bear in mind is the fact that you can drag and drop buttons while the edit window is open. You can drag and drop from one button bank to another, do the same within the same button bank – you can even drag buttons into the action editor if you want to add another command, or drag them into a function window if you want to make a button list. Tres handy.

While we are talking about creating buttons, it's also worth discussing the commands that make them work. As you probably already know, *DOpus* has its own internal commands as well as the ability to use AmigaDOS scripts to make things happen. This gives the user (that's you) almost unlimited power to create any type of button you want. As an example, I find the *Miami* interface to be somewhat intrusive. But *Miami* has a lovely ARexx port which I'm never going to make full use of. However, even I can set up a button in *Directory Opus* to go online and another to go offline by making a script that simply says:

/* Get Miami online*/
Address Miami.1 Online

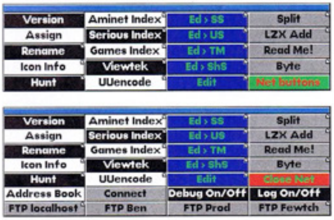
I change online for offline when I want to link down. And, if I was more ARexx-aware, I could use Miami's ISONLINE command so that I only need one button to do both jobs. The only trouble with this script is that it gives no visual feedback to tell me when I've got online (or off again). This is where *DOpus* wins out again. By adding:

```
command     FinishSection
command     Beep
```

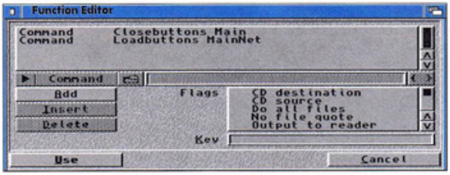
after calling my *Miami* script, I can make *DOpus* beep to inform me that I'm either on or offline. For this to work, you'll need to make sure that you don't have "Run asynchronously" turned on in the list of options down at the bottom right of the function editor window. I thought this might initially be a problem until I remembered that even buttons are regarded as separate processes in *DOpus*, so it won't affect the normal running of the rest of the program.

The "FinishSection" beep sound can also be very handy tool to have if you are in the habit of copying long files or making huge archives and it isn't that difficult to add to an existing button. You don't even have to use *DOpus*' internal beep – Nick used to have his machine doing a round of applause when copying from his notoriously slow IDE drive.

For my last trick, I'll explain how to add new buttons to a button bank interactively. For this to work, you'll need your standard button bank with a button spare. For me, this is the red on green button labelled "Net buttons". Before editing this button, change the title of the bank and save it under a different name. For me, the new bank becomes known as MainNet. Then you can put the commands, shown in the grab below, in the function editor for this button. Now, if you click on the "Net buttons" button the bank disappears and is replaced with the clone bank. You can now add new buttons to this bank to give you Net functions as I have done and change the "Net buttons" button to "Close Net" and reverse the function for the button. This looks pretty nifty and you'll be glad to know, doesn't take a whole lot of effort either.



Clicking the "Net Buttons" button will open the second bank shown here.



Making unfolding button banks is very easy. Why not make one that just keeps unfolding?

Advanced ARexx Coding

Paul Overaa concludes those console device discussions and shows you how his screen definition and layout method works in practice... Part Two

ON THIS MONTH'S CD

AFCD18:-In_the_Mag-/ARexx

Console-based Applications

Having outlined the general principles of console device use it's now time to look at some code that puts it into context. The simple application I've chosen concerns a hypothetical income summary sheet. The idea is to collect income figures for the twelve months of the year, add them together and display a total. A bare bones routine could have been written using the Say/Pull structure where the final summing operations are being done using a do/end loop. But our task is to create a version which uses a display, similar to that in **figure 1**, where the user enters amounts into the month fields after which the script inserts the total figure on the display.

The console.rexx script on the Coverdisk is fairly large but all important operations are written as separate procedures so that we still end up with the bulk of the code offering a re-usable framework that can be modified to suit various applications. Some fairly high-powered ARexx tricks have been used and chances are that the script will only make sense if you understand why particular code areas have been written in the way they have:

Firstly, you should notice (see the fragment in **listing 1**) that I've started by setting up a block of static definitions for handling the console command strings. It's not just with pure control character sequences that such definitions come in handy either. General text, error messages and any other kind of displayed information can also be set up. The 9b hex value for instance, which the console device recognises as a control sequence introducer, can be defined as...

```
g.CSI='9b'x
```

this then allows other control sequences to be defined in terms of g.CSI:

```
g.ITALIC_ON  = g.CSI||'33'x||'6d'x
/* italic text style command */
g.ITALIC_OFF  =
g.CSI||'32'x||'33'x||'6d'x
/* italic off command */
```

in this case enabling italic messages to be specified in this fashion...

```
g.TITLE2 = g.ITALIC_ON||'Press
ESCape to clear
display or exit program'||g.ITALIC_OFF
```

Once such definitions are available messages, along with all required control characters, can be generated in the main part of the script simply by using these type of function calls...

```
call WriteToConsoleWindow
(window,6,4,g.TITLE2)
```

If you've not come across this approach before, then take special note – hiding the control sequence values has proven valuable in reducing the detail present in individual routines so you're less likely to make mistakes when coding!

FIG 1 – INCOME SUMMARY

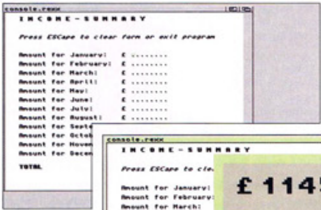
Press ESCape to clear form or exit program	
Amount for January:	**#.......**
Amount for February:	**#.......**
Amount for March:	**#.......**
Amount for October:	**#.......**
Amount for November:	**#.......**
Amount for December:	**#.......**
TOTAL	**#.......**

● **First step when designing the screen display was to produce a rough sketch of the required field layout.**

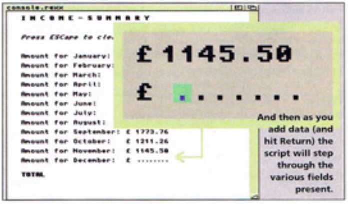
BEGINNERS BOX

Compound variables hold the key to understanding how this month's script work.s A compound variable name contains at least one period and at least two other characters. The name may not start with a digit or a period and, if there is only one period, it may not be the terminal character. So 'f.14 and 'fish.pike' are valid compound symbols but '20.f' is not! The first part of the name, ie, the portion up to and including the first period, is known as the 'stem' and so the stems associated with the two valid symbols just mentioned are 'f.' and 'fish.' The rest of the name is called the 'tail' and multi-part tails, eg, x.y.z, are allowed which provide the ARexx equivalent of the higher dimension arrays found in other languages.

When ARexx comes across a compound variable name it generates a derived name by replacing any references to the various parts of the tail with the values of those specified symbols. ARexx's compound variables, as this month's code illustrates, do in fact offer rather more flexibility that ordinary array style variables because they can contain both numeric AND text string references!



When you double click on the example script's icon you'll see this sort of display appear.



And then as you add data (and hit Return) the script will step through the various fields present.

COMPOUND CONNECTION

There are three main areas where compound variables are being used in this month's script – in

LISTING 1

```
g.SPACE='20'x; g.APPROX='7E'x; g.ESC='1B'x; g.CSI='9b'x
g.ITALIC_ON   = g.CSI||'33'x||'6d'x        /* italic text style command */
g.ITALIC_OFF  = g.CSI||'32'x||'33'x||'6d'x /* italic off command */
g.BOLD_ON     = g.CSI||'31'x||'6d'x        /* bold text style command */
g.BOLD_OFF    = g.CSI||'32'x||'32'x||'6d'x /* bold off command */
g.TITLE1 = g.BOLD_ON||'I N C O M E - S U M M A R Y'||g.BOLD_OFF
g.TITLE2 = g.ITALIC_ON||'Press ESCape to clear display or exit
program'||g.ITALIC_OFF
```

● **Pseudo-constant definitions like these can help keep the main areas of your scripts easy to read.**

the static definitions just mentioned, in the definition of the display layout itself, and in the collection of data from the various areas of the display. As far as the former use is concerned, things are straightforward. If we didn't use a compound variable set to define the various control strings etc., then it would be necessary to expose every item used in every procedure in order to access any definitions we set up. By defining all of them as part of the g. stem variable set, however, we're able to expose the whole set of definitions by exposing just the g. stem itself. Sneaky eh?

"There's no doubt that the way to get to grips with this sort of code is to experiment."

A number of functions, including the DisplayConsoleWindow() and ClearConsoleWindow() routines shown in **listing 3**, are also exposing another compound variable stem, f., and it's this which allows record field placement information to be delivered to the routines that handle the display.

The thing to bear in mind is that compound variable tail elements do not need to be text based – variables holding numbers can also be used and so compound variables can be manipulated within counter-based loop code in the same way that, say, Basic array variables are used in things like for/next loops. One dimensional arrays are set up easily by defining a compound variable with a tail that consists of a single numeric variable. A list of values might be collected from a user and stored in an x.i compound variable set using this sort of loop...

```
x. = 0; say 'how many
items'; pull n
do i=0 to n-1
  say 'enter item' i; pull
x.i
end
```

For my console window script these ideas have been taken a little further by using multi-part tails. The f. stem is used with each index type numeric tail being coupled to field name, screen row/column co-ordinates, and field reply length entries in this fashion...

```
f.i.name  Field name
f.i.r     screen row position of field
f.i.c     screen col position of field
f.i.l     length of reply field
following the field name
```

The beauty of this arrangement is that it enables the screen layout to be defined by building an appropriate compound variable set for each required field like this...

```
f.1.name='Amount for January:
'; f.1.r=10; f.1.c=4;  f.1.l=8
f.2.name='Amount for February:
'; f.2.r=12; f.2.c=4;  f.2.l=8
f.2.name='Amount for March:
'; f.3.r=14; f.3.c=4;  f.3.l=8
```

Notice in the example script itself that a variable f.FIELD_COUNT is also set up. This, as the name suggests, is a count of the number of screen fields that have been defined using the above scheme and is used by all of the loop-based field handling routines.

MODIFYING YOUR SCRIPTS

Converting your own Say/Pull-based scripts to use these types of console-based arrangements should, in most instances, be easy. Look at the information being collected and displayed, sketch out a rough layout to identify the names and positions of the fields you need, and then build the form definition in the manner outlined earlier. Insert this into the example script, modifying any additional WriteToConsoleWindow() message display code that you might need, and then re-write the ProcessData() routine to perform whatever calculations or results display required.

For example if this line was being used to collect a temperature value in a conventional script...

```
Say 'Temperature (degrees
Centigrade):';
Pull temperature
```

then the console based equivalent would require an appropriate field definition...

```
f.1.name='Temperature (degrees
Centigrade): '; f.1.r=12; f.1.c=4;
f.1.l=6
```

coupled with a ReadConsoleWindow() statement for collecting the data typed into the field at run time. Since all responses come back as a compound variable set, reply$.i, collection of the equivalent screen field entry would just be a matter of either using a statement like this...

```
temperature=reply$.1
```

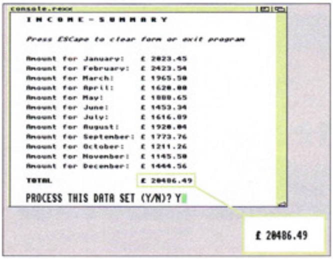
or, perhaps more likely, using the reply$.1 value directly.

PRACTICE MAKES PERFECT

There's no doubt that the way to get to grips with the production of this sort of code is to experiment. Use the example as a basis for modifying some of your own scripts, creating console display versions that will actually be useful to you!

A bit of pre-coding analysis was needed prior to writing the keypress collection routine but with a plan this was easy enough to write. It was the formulation of a method for defining the screen layout that allowed the series of general display handling routines to be developed and this in itself should be food for thought. Compound variables are ideal for many data-set building operations and their flexibility, in many respects, is far superior to the simpler array based approaches offered by most other languages!

Finally by typing Y when the process/don't-process prompt appears you'll see the total displayed on the screen!



LISTING 2

```
DisplayConsoleWindow: Procedure expose f. g.
parse arg window
do i=1 to f.FIELD_COUNT
  call WriteToConsoleWindow(window,f.i.r,f.i.c,f.i.name)
end
return

ClearConsoleWindow: Procedure expose f. g.
parse arg window
do i=1 to f.FIELD_COUNT
  call InitialiseInputField(window,f.i.r,f.i.c+Length(f.i.name)+1,f.i.l)
end
return
```

● **The simplicity of these two display handling routines is due to the fact that ARexx compound variables are used to define control sequences and screen fields layouts. These are then directly available to the routines via the Expose keyword.**

PPaint

A tearful **Nick Veitch** is your host for the very last in the series of *PPaint* tutorials.

CONTENTS



Here we are then, the very last in our series on using *PPaint*. Well, actually, I probably could be coaxed out of retirement if you wanted something special sorted out, but on these very pages you will find the answers to your most requested, er, requests – how to make a convincing soft shadow type effect, and various nonsense about web graphics.

I have only received one complaint from someone who thought that the whole tutorial should have taught him how to draw. I'm afraid it is beyond my capabilities to do that. By knowing how to use the software properly you can do things faster, you can do them more efficiently and you may find things that you wanted to do, but didn't know how.

Even the best tutorial is not going to teach you to be an artist, you do have to supply some of the talent yourself. However, you should be able to produce better looking results in a shorter space of time. I hope you are. Over the months we have skipped over some of the very basic things, but when time allows I will be compiling all the tutorials into HTML and AmigaGuide format and adding more information in. So, if there was something else you wanted explained, now is the time to write in about it.

I would also recommend that you get hold of a later version of *Personal Paint*, such as 7.1 for example, which has many new features, not the least of which is ARexx support. I look forward to your gallery entries...

HINTS AND TIPS ON MAKING GRAPHICS FOR THE INTERNET

Personal Paint is actually ideally suited to creating web graphics. For a start it is bitmap orientated – which is handy because that's how all browsers treat images. Secondly, there is internal support for all sorts of web type features.

Even the Coverdisk version had the GIF saver which supports the "progressive" format – the image appears quickly and slowly increases in resolution. The latest version also has ARexx scripts to create animated GIFs for those vital animated buttons and logos, which must appear on your web-page to drive everyone's bandwidth down.

The most important thing to remember when creating images for web pages is to keep the colours down. Use of the Floyd-Steinberg dithering, and *PPaint*'s colour reduction features should be very handy. In many cases it is rather difficult to tell the difference between a 256-colour image and a 64-colour one, except of course for the diminutive size of the latter. Think small, is the best advice.

A NOTE ABOUT JPEGs

The JPEG image format was a tremendous invention. But knowing what the letters stand for should give you a clue about its intended use. The Joint Photographic Experts Group was set up to create an image standard for compressing the otherwise bulky 24-bit graphics scanned in from photographs or otherwise taken from "real world" sources. It was never originally intended as the global image compression system it has become.

Because of its design, it works best with true or high colour images (eg. those with more than 4096 colours in them). Also, because it was intended for large images, you may find that this lossy compression system can generate larger files than those which are compressed by much simpler systems like RLE (IFFs) or LZW (GIFs). This is because a large part of the compression is based around Discrete Cosine Tables, so the file has to contain both the table and the image data. The size of the table is insignificant in a 2Mb graphic, but much larger in a 20k one. Even if the compressed file isn't that much bigger, when the poor browser gets hold of it, it has to expand it into 24-bit colour space before it is dithered down. So, as a file format, it's great for scanned photos, 24-bit graphics and stuff that you want to include on your web page, but a bit silly for anything else.

A NOTE ABOUT GIFS

There has been a bit of trouble with GIFs, ever since Unisys decided that since they had copyright over the LZW compression routine (which is also used in Mac TIFF images), they were going to demand a licence fee for everyone who used it, or sue them (well, Atari got away with it). So, use of them is a bit dodgy. *PPaint* supports the replacement standard, PNG, which was rapidly developed in response to this, but sadly few browsers actually support it at the moment (and indeed, few sites are using it).

CAN YOU TELL THE DIFFERENCE?



256-colour image, (18k)



64-colour image, (12k)



GIF image, 7k



JPEG image, 8.5k

ME AND MY SHADOW



Soft drop shadows. For some reason, everybody wants one. Okay then, first take your image. It can be anything from anywhere really, but it's good if it has a clear background.



The first thing to do is allow some colours for the shadow. If you have a 256-colour pic, use the Less Colours from the Colour menu to free about 32 colours and make a nice black/white gradient.



You'll probably find the background isn't as clean as it should be. Make a new stencil, and select colours in the image proper (drag the mouse over the image). Be sure to get all the dark colours.



If you click on the show button in the stencil, it will display a bitmap mask. You don't want to see any little bits around the edges. It doesn't matter if there are a few holes though...



Using a brush or drawing tool, right-click on the noisy bits around the edges. If you open a menu, you will often see that the evil bits show up better, so you can check what's done.



Once satisfied, copy the environment to the spare page (shift-J). Turn the stencil off ('). Cut out the image as a brush, and then clear the current screen to the background colour.



To get a shadow effect, we want a black version of this image. Choose the black colour you made earlier, and select the "Colour" paint mode from the brush menu, then slap it down.



To get a soft edge, we'll use the High Blur filter. I recommend you turn the FS switch on (although it does take longer). You may want to repeat the filter more than once.



The result is a blur. Now is the time to fill in any "islands" in the black image, although depending on the extent of the finished shadow, these probably won't be visible anyway.



Back to the main image. Change the background colour to one not present in the image, then choose "remap" from the colour menu. This gets rid of the transparent areas in the body image.



Change the background back to white, pick up your shadow from the other page, turn on the stencil again and you can now place the shadow in position behind the image.



For a more realistic shadow, try using Shear and Resize on the brush. You could even cut it into slices and make it go up stairs if you really, really wanted to. And that's it for shadows.

Cinema4D 2

CONTENTS

All the bits and pieces left over from the *Cinema4D* tutorial, brought to you by the ever-solid John Kennedy.

We've covered a lot in the last eight episodes, and now is the time to tie up any loose ends. We've only scratched the surface of this great program, and there are still dozens of features and options available for you to discover.

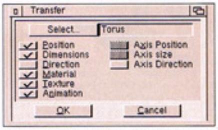
Here you'll find all the little snippets which we couldn't find a home for in the previous tutorials. Most importantly, we include a mention of the Point Editing tools. As you know, most of the objects used in *Cinema4D* are constructed from a set of faces called "facets". Usually when editing, you deal with the object as a whole, moving, scaling and rotating all the facets which make it up.

However, you can also edit the individual points. These can be moved individually, allowing you total control over an object's shape. There are also tools for dealing with the points in groups, such as the magnetism tool.

TRANSFER

(Tools menu)

Imagine you have carefully created an object, positioned it perfectly and assigned the materials and textures. Now imagine you want to create a very similar object. Instead of going through it all again, use the Transfer option. Transfer allows you to apply the settings from any object to the current object.

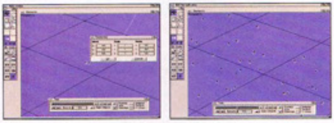


Choose the properties you want to use again and Transfer will apply them for you.

RANDOMISE

(Tools menu)

If you want to deal with a large number of objects and scatter them around a scene, don't forget about Randomise. Randomise includes settings for Move (the maximum distance which objects can be moved), Scale (how much the objects are re-sized) and Rotate (to randomly spin the objects). You can use Randomise to create starfields or forests, for example.



Before and after – the pyramid was copied and pasted a few times, and then Randomised into instant explosion debris.

SOURCES OF INFORMATION

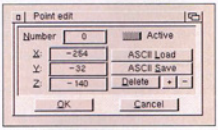
- HiSoft sell and support *Cinema4D* in the UK. For all the latest information, visit their web site at: http://www.hisoft.co.uk/
- *Cinema4D* is now available for PC and Apple machines. For information on this version, you should check out the official site at: http://www.cinema4d.com/
- If you are interested in rendering on the Amiga in general, visit Steve's 3D site, which is crammed with wonderful images. You'll find it at: http://www.insight-media.co.uk/users/steve/
- There is a great unofficial Web site, hosted by Hans-Jörg Frieden and Thomas Frieden. There are images and tutorials to work through, so consider it a "must visit" site. http://www.informatik.uni-trier.de/CIP/hfrieden/
- If your German is up to scratch, visit the Maxon site. Maxon are the programmers responsible for *Cinema4D*, and you'll get news from the horse's mouth here. http://www.maxon.de/
- To see a gallery of work created using *Cinema4D*, point your browser to: http://hem1.passagen.se/robertny/
- More rendering news – in German sadly – but worth a visit. Are there no UK rendering groups? Tell us! http://members.aol.com/cypresspro/indexd.htm
- Finally, visit your favourite Aminet site where you'll find plenty of inspirational images as well as models to incorporate into your own scenes.

ASCII INPUT

(Extra / Points / Edit Element)

Cinema4D can read in a plain text file, and use the contents to construct objects. You can use this to generate objects automatically, but you'll need to be a bit of a whizz at both 3D geometry and programming.

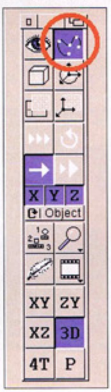
The ASCII file must start with the number of points, and then a set of X, Y and Z co-ordinates. The best way to see it, is to use the Save ASCII option with a simple shape. You can then work out the format used, and create your own text files. This can be quite useful if you want to quickly and accurately create a model from a plan for example.



Object creation for experts: let the computer do it for you.

POINT TOOLS

(Window menu)



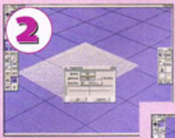
Every object you create can be edited at a very low level: namely the points which make up the surface faces. This allows for some ultra-accurate manipulation of objects, and some neat effects too. You can open the Point tools window from the Point Bar option in the Window menu. First of all, to edit an object in Points mode, click on the points mode icon in the toolbar.

Click here to go to points mode.

CREATING A SPLASH WITH POINTS



1 Create a plane with a large number of parts, keeping to about 100 in total. If you have the memory and a fast processor, try using a grid of 100 by 100 or more. The more parts, the smoother the final image.



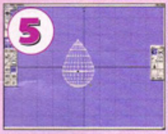
2 Switch point editing on, and select the Magnetic tool. Right click on the magnet icon to bring up the window, and then select either of the WAVE functions.



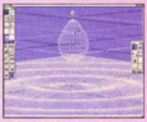
3 Select a point in the centre of the grid and then drag it upwards slightly. The grid should deform into a series of ripples.



4 Create a sphere object. It's important that you make sure that the "perfect sphere" option is switched off, or you won't be able to edit the sphere.

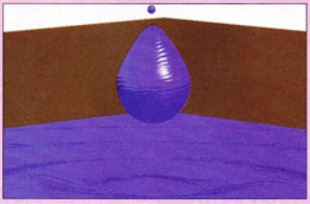


5 With the magnetism type returned to Linear, drag out one end of the sphere to make a droplet shape. The more segments you use to make up your initial sphere, the better the result.

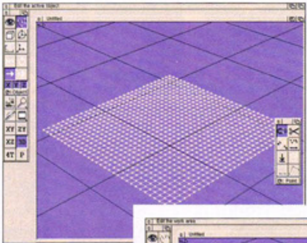


6 Apply a water-type material setting to the objects (there should be a suitable material included with the initial install) and position the objects and views. Add some objects to border the ripple and switch on the sky and sun.

7 Render in raytracing mode with as large a resolution and as many colours, as your system can stand! This was rendering in 640 by 512, 24-bit and took just over two hours on an A4000/040.



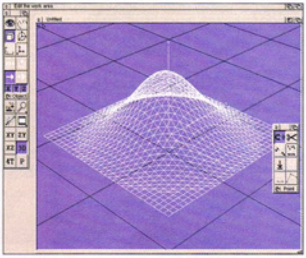
Here's an example. Create a plane with a relatively large number of elements (say, 20 by 20). Now go to Point editing mode and then select the Magnet tool



from the Point Bar. Click on a point in the centre of the plane and move it – the others will move too. The overall shape will depend on the Function setting.

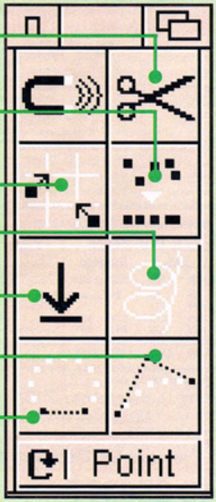
And that's about it! I hope you have enjoyed playing with *Cinema4D* as much as I have. There really is so much to this program – it may appear simple, but there are a lot of powerful features at your disposal. We didn't have time to look at everything in detail, so you'll need to keep experimenting to really get the most out of *Cinema4D*.

Remember to keep sending in your images to the magazine – the best will be published and included on the CD-ROM. You never know, you could be discovered as the next great exciting young artist...



Create excitingly curvy objects using the magnet tool from the Points Bar.

The other point tools are as follows:



SPLIT
This creates a new object using any selected points in the original. The original object is not affected.

ALIGN TO PLANE
Flattens any bumps and moves all points to a plane. Which plane depends on the current view.

ALIGN TO GRID
Tidies up any errant points.

HELIX
Insert a helix (spiral) into any part of a polygon.

JOIN
Insert a polygon shape into an existing polygon.

ROUND
Smooths a sharp corner present in a polygon shape.

ARC
Insert an arc with a defined number of control points into a polygon. Select three points and Arc will draw a curve through them.

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LITTLE WONDER

I bought your excellent magazine a while back but it has been of little use to me since I only have an old glorious A500. When reading your mailbag section I discovered a letter written by Vaughan who told us how wonderful the Amiga was, and still is. This letter was great and proves that people with Amigas treat them like no other computer.

My Amiga is old and out of date but it entertains me with great games. PCs are more advanced but for a 16-bit 1Mb computer, my Amiga whips the PC, giving me loads of enjoyment and overall, being one of the greatest computers ever created. I only wish Amigas ruled the computer world today.

There isn't loads of software available any more, but I recently discovered Shareware, which is excellent and gives me good quality games at low prices. Anyone in my situation should check out PD.

Gerard Mulholland
Co Antrim, N. Ireland

Thanks for your thoughts. It does seem rather odd that many people give up things which work for them and then spend hundreds of pounds to be able to do exactly the same things. Of course, if you want to be able to do new things, like access CD-ROM titles, or you want to do the same things faster these are compelling reasons to upgrade.

SOFT YORKSHIREMAN

I'm sorry Softwood, it was me who wrote that letter about *Final Writer*. Firstly, I'd like to apologise for getting my facts wrong – the new price is £50 and the upgrade is £23 including p&p. Having said my bit, I have renegaded and purchased *Final Writer '97*. How about a truce Softwood? How about us Amiga readers and users being positive about the package, and swapping ideas, workarounds and tips? Maybe you'll listen and incorporate our concepts into the next upgrade.



Final Writer – an apology due and given.

Anyway, is it still an upgrade too far with a price of £23? The boxes feature is a terrific boon, and a great improvement on the tables feature from *Final Writer 5*, but the problem still remains that the boxes, and any other 'normal' text, are all treated separately by the speller. If you have a page laid out in boxes and text like a magazine, then you have to spell check each box – you can't check a whole document at once. Has anyone worked out a way around this problem yet?

Come on fellow Amiga users and readers, let's support the Amiga more positively and write in with our problems and solutions for packages such as *Final Writer*.

Adrian Joice
Beverley, E.Yorkshire

It was very big of you to admit it. And of course, we would certainly like to receive any letters suggesting workarounds. I think that they would probably be better dealt with in Workbench though.

POWER PROBLEMS

I am very interested in the new PowerPC boards that are coming out and will buy one as soon as I can. The thing that I don't understand is the reason why we need so many different boards. 603e '030, 603e+ '030, 603e '040, 603e+ '060, 604e '040, 604e '060 and not forgetting Cyberstorm PPC.

This just makes standardising our beloved machine a farce, especially with the news of even more powerful power chips on their way.

Are we not just going the way of ill-fated PC-owners, in their never-ending search for a machine that can keep up with the games? Or can we have a standard machine, say a 1200T 603e+ '040 that we can all adhere to and get our heads round?

I was flicking through *PC Format* when I noticed that there is now an Amiga emulator that claims to run all our software/games and demos and any of our Workbench modes. Does this mean that we, the Amiga community, might just as well go out and buy a PC and just emulate the thing we are all trying so hard to save?

Chris Jones
Sheffield



Phase5's PowerPC upgrade – does the range of options make things too confusing?

Well to answer your first point, the reason is simply that the 68k based chip is the fallback processor for software which will not run in a native PPC mode. So it really depends how fast you want to run this software. At the moment, programs like Lightwave *don't recognise the PPC at all, so if you went for the 603/'030 option, you would only be rendering at the speed of an '030.*

There are no real incompatibility problems between the PPC processors being used, so they are basically plug-in replacements for each other – the fastest PPC is going to give the best performance on PPC aware software. To the programmers it doesn't make a difference which PPC chip you are using, as the development is broadly the same for all of them.

As for the UAE *Amiga emulator, yes, it does exist and yes it does work. Unfortunately, it is slow, and only supports the A500 chipset. So if you think you will be able to play* NEMAC IV *faster on a Pentium, I'm afraid you're out of luck. Because* UAE *has to redirect all system calls and emulate the functions of the custom chips in a real Amiga, it is always going to be slower than the "real thing", although a P200 could probably run an A500 at more or less A500 speed.*

FOOTBALL CRAZY

On Coverdisk 100b you had the *SWOS Editor* – something I've always wished for. I am a huge fan of *Sensi World of Soccer* and I have all the *Sensible Soccer* Editions. I'm completely baffled by this MUI job type thing and apparently the *SWOS-Ed* won't work without it. I need to know how I can get the MUI program and where from. Please help me.

Gareth
Manchester

Continued overleaf ➡



SWOS – all you need is on the CD. And you want to swap Willis and Mohan.

You are obviously a bit overexcited. The latest install archive of MUI was included on the CD. If you don't have a CD-ROM drive then you should be able to get a version of MUI on floppy from any good PD library.

TAKING STOCK

My husband and I are hoping to start up our own business, the business being anything to do with Amigas. I was hoping you could help us with something. When we start our business we will need stock. Would you know who I can contact about supplies? Any information at all would be greatly appreciated.

Mrs T Manhertz
Hull



A number of new Amigas are now, or will shortly be, on sale – that's good news for everyone.

Well, you are in luck. If you have been reading AF *you will have noticed in news last issue that a variety of Amigas will be on sale again. For A1200s and A4000Ts, you should speak direct to Amiga International on 0049 6103 58785.*

STILL SHOPPING

Having bought the odd *AF* I thought I would take out a trial subscription. I have to say that I was a little disappointed that there was no financial saving, but accepted the free goodies. I was also disappointed with these – especially as I already have *Wordworth 5* and *6*! The subscribers' disk seems to have very little new stuff on it.

Peter Richards
Haywards Heath, W. Sussex

Well, I think you'll find that this month we are doing a special money-saving subscription offer, (see page 84) so perhaps we can tempt you back into the fold. As for the subscriber disks, I am quite surprised by your comments. The disk is compiled about three weeks before the magazine goes on sale, and is generally made up of programs selected from those released in the previous three weeks. If you have Internet access, you could probably get the Shareware a few weeks before it appears on our disk, but the other advantage is that it is selected software – instead of spending time and money downloading everything on Aminet, we select the most useful examples for you.

PAST GLORIES

Great mag, great CDs. Please could you help me! Many moons ago Toby Simpson did some tutorials on C and Assembler programming in *Amiga Shopper*. Could these be included on your cover CDs? Also, Cliff Ramshaw did a chess game in C, any chance of including that too?

Despite what people might think, the Amiga is a unique computer with a unique user base and I believe it will survive because so many people just love it. All Amiga users have a lot to offer by contributing their ideas, artwork, source code etc. so more of us can learn from each other.

Nelson Howe
Basildon, Essex

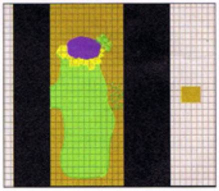
Ah yes, the excellent chess tutorial. I was chatting with Cliff about that in Hatchetts the other night. It transpires he had to learn the rules of chess to write that tutorial. Still, it was quite good. I'm sure we will be able to do something with old AS tutorials, perhaps we could present them in HTML format on the CD?

GARDENER'S QUESTION TIME

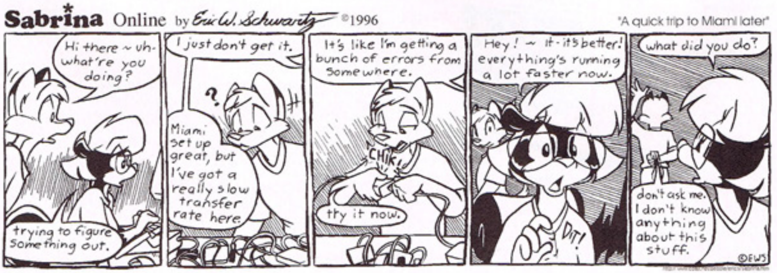
I have an A1200, which is very useful for a number of tasks. However, as a gardener, I am quite upset by the lack of horticultural programs on the Amiga, such as Geoff Hamilton's *Garden Designer* (on CD-ROM) which is available on the PC. Do you know if any such program is likely to become available on the Amiga?

Tony James
Wandsworth, London

There were a few CDs around which were basically catalogues of plants and gardening encyclopaedia fare (I can't find any record of them in our archives though – perhaps someone else will remember them). I'm not sure what the late Mr Hamilton's program does, as I have never seen it in action. However, you could still use your Amiga to help you plan your garden. Even something as simple as a paint package could be useful for planning. You could draw a grid to represent the garden, make brushes of the plants and then place them wherever you wanted. Obviously it isn't quite the same as



It's a garden okay? It isn't finished yet. The grid is useful for planning things properly.



JUST THE FAX

Can you please do a feature on faxes on the Amiga? I have everything – Fidonet, Internet, comms, but no Fax. How about a demo of some good Amiga fax programs, or a collection of Shareware titles, and maybe a bit of a write up. I hope you decide to act on this letter

Kosher
via email

Do you already have any fax software? The most popular solution is GP Fax, which is available from Wizard (check the ad in this issue). If you do have Fax software but can't get it to work, you need to be a bit more specific, and send your query to Workbench.

a dedicated program, but it is still useful. In the meantime, perhaps someone else can write in or give us a call and suggest some other alternatives.

MARKET FORCES

Why do the computer commercials concentrate on boring technicalities and show pictures of even more boring devices in silly environments? I have an idea for marketing Amiga computers:

1) The word "amiga" is Spanish for girlfriend. This would be great in an ad.
2) Hire a beautiful, famous young lady, maybe an actress or singer, to represent the Amiga.
3) Make a TV commercial which makes her beauty and superiority to competitors obvious. Girls will idolise her and boys will dream about her. Possibly use a morph where a computer changes to a woman. Not too much of the computer shown, because computers are basically very silly-looking things.

During and after the campaign, when people see this person on TV, doing what she normally does, they will be reminded of the Amiga. All it would take to create such a commercial is money and skill.

Jyrki Ukkonen
Finland

Hmmm, but who would you pick as the ultimate personification of the Amiga. Dark, pouty and sultry? Blonde and bubbly? Sherilyn Fenn or Baby Spice? I'm not sure what ads Amiga International have planned, but I'm sure they'll take your ideas on board. In the meantime, I think you should get out more...



This is how a new Amiga ad might looked if produced by the *AF* team. Cathy is the closest thing we have to a "famous and beautiful young lady" – and she works for peanuts.

SHAREWARE SUCCESS

I felt I just had to write to you to express my heartfelt thanks, through your letters page, to all those wonderful people who have supplied so much of the software that I have been using.

No, not the commercial programs but the Shareware that has filled the gap in these dark and desperate times while waiting for an operating system upgrade. I'd tip my hat (if I had one) to all those people who have spent time and effort overcoming a problem that they have found themselves, and then released a solution, for just a small fee, to all and sundry.

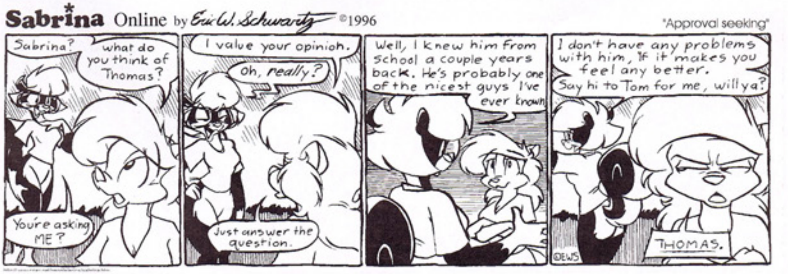
I counted up the number of Shareware programs that I use and I was amazed to find that it came to over 80%. I have decided to register all of them which does seem only fair, so once again, a very big thank you! And before I go – please, *AF*, put a search facility on your CD!

Raymond McCarthy
Surrey

If everyone did as you did, the Shareware scene would be a lot stronger than it is now. Oh, and before I go, we have!



Shareware. We ran a feature on it. You register it.



Reader Ads

Can't find that game? Or desperate to sell so that you can afford to upgrade? *Amiga Format* to the rescue.

For Sale

● **AMOS Professional** boxed and with manuals: £20, Imagine 3D v3.0 with manual (manual good for v4.0): £25, Deluxe Paint v5 boxed with manual: £30 (vgc), Reunion AGA (hard disk only), Alien Breed 3D (the first one), Blood net AGA (hard disk only), Civilization, Liberation Captive II, Jet Pilot, Tornado AGA. All boxed with manuals and in very good condition. No sensible offer refused. Contact Andy Kinsella • 42 Hibernia St. • Deane • Bolton • Lancs • BL3 5PG

● **Amiga 1200 Desktop Dynamite Pack** with WB 3.1, complete and boxed: £110, 540Mb 2.5" hard drive: £45, Power Computing 3.5" 1.76Mb floppy drive: £35, Power Computing 64 grey scale hand scanner: £45, Spectrum 28/24 24-bit 2Mb graphics card with EGS and Picasso96 software: £120, OpalVision 24-bit graphics card with software and manuals: £80, Tabby digitising tablet: £30, Digiview greyscale video digitiser: £20, Eyetech 8-speed CD-ROM and Eyetech buffered interface for A1200: £130, Casio CZ5000 Digital synthesizer and sequencer, midi in/out/thru: £200, Roland W30 workstation, MIDI in/out/thru, SCSI interface: £450, Amax II Mac emulator, Amax 2.5 software, Mac 800k drive, interface and ROMs: £60. Buyers collect or pay for postage. Tel: 01582 579007 (Luton area)

● **Draco video workstation** fully supported by Amiga OS, Draco video workstation:-
Draco '060, CD-ROM quad speed, 4Mb VRAM graphics card, Toccata sound card, 1Gb SCSI-2 hard disk, 4.3Gb SCSI-2 hard disk, 17" m/sync 1600/1200 monitor, 40Mb fast RAM, SyQuest EZ135 removable disk drive.
Software:-
Imagine 5, Movieshop, XiPaint, AdPro, Wordworth 6, ImageFX 2.6, OctaMED, SeKD, plus fully Amiga OS supported.
Worth around £10,000 new!
Only serious offers.
Ring jason for full details on 01277 373033 or email jason@jayco2000.demon.co.uk

● **CD1200 controller**, PCMCIA CD-ROM controller with CD1200-plus install software comes with external case for any CD-ROM drive: £30 ono. A1200 RAM board with clock, 4Mb, 33MHz: £30 ono. Ben Allen • 84 Lothair Road Aylestone • Leicester LE2 7QD

● Overlord, Pinball Dreams, Maxiplan 4, Embryo, B-17 Flying Fortress all £10, PageSetter 3: £15, Putty and Wordworth 2: £7.50, Wordworth 3: £12, Wordworth 5: £17.50, Skidmarks: £5. Tel: Matthew Key on 01803 858018.

● **Due to upgrade** – A1200 memory expansion board with 4Mb SIMM: £40
Tel: Allan Shillitto on 01275 878125 (North Somerset)

Wanted

● **A4000 '060**
If anyone is looking for a home for that trusty A4000 then please drop me a line. An '060 machine would be preferred, but any 4000 considered.
No add on peripherals needed – just the base machine.
Steve@penge.u-net.com
3 Sandhurst Road
Yeovil • Somerset BA20 2LG
PS. If there is anyone out there who wants to talk Amigas and drink beer in the Somerset area then feel free to drop me a line.

● **Issues of Amiga Format**, in particular issue 24. Also issue 17, 25-32 + issue 35. Also all issues before 14. Tel: James Ferris on 01249 654287

● **Any Amiga user's** in the Carlisle/Penrith area connected to the Internet who would be interested in showing a novice [me] just what it's all about. Tel: Stephen Bucknall on 01768 885287

● **People in the Rotherham area** interested in an Amiga Users Club. PLease write to: Graham Heap • 45 Rawmarsh Hill • Parkgate • Rotherham South Yorks S62 6DP

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Unfortunately we cannot guarantee insertion in a particular issue.
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Use one space for each word. Only the words in this section will be printed

Free!

The Gallery

Aarghh.. too much stuff.. not enough spa



Just one of a series of portraits by Dave on this month's CD. All include biographical details on the characters concerned.

Metalhead by Dave Higton



£50 winner

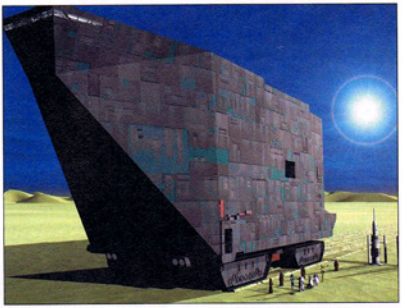
Roy's got two pics on our CD this month. We love the daubed on quality of this one, it looks almost like oil paint.

Peep by Roy Hook



Jeff's a bit of a *Lightwave* expert as you can see here. This is one of the many designs he proposed to the BBC for use as BBC2 channel idents. You can visit his website to see more.

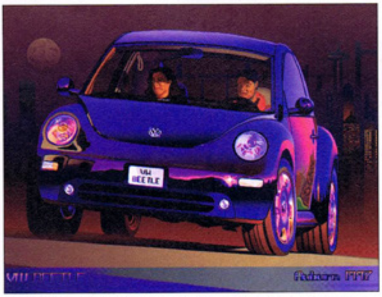
Space 2 by Jeff Ranasinghe



Excellent texturing and composition are what make this Jawa sandcrawler really imposing and the figures in the foreground really give you a feeling of scale.

Sandcrawler by John James





It's been a while since we had some work in progress – it's just a shame we couldn't print them bigger. A beautiful example of a hand-drawn image.

Beetle by Auburn Hodgson



Mixing wireframe and fully textured renders always looks nice and nowhere more so than here.

Rendered wire by Andy Kinsella

This month's Cover CD

All work but also lots of play for Ben Vost this month as he peruses AFCD18 and tells you what to look out for.

Websites

Okay, so, due to a last minute technical hitch, we don't have the Amiga International site on this month's CD. Hopefully, we'll get it on next month's. But that doesn't mean we don't have a great set of websites for you and this month's list includes:

- The Formula One website
Oliver Roberts' site for his superb utility
- Blittersoft
UK distributors of all sorts of gubbins
- GPSoft
Makers of the indispensable *Directory Opus*
- Nova Design
ImageFX and now *Aladdin 4D*
- Amiga Flame, Amiga Nutta and Intuition
Great games sites
- DrawStudio
Home to the Dean brothers' lovely art package
- SASG
MUI, *Magic Workbench* and more

Remember, all these sites are sent to us directly by the website maintainers so you can be sure that we have their permission for them and they are the official versions.



AMIGA FLAME

Blittersoft

Just some of the great websites on our CD this month.

At your fingertips

In our In the mag directory this month you'll find the software we mention in the Beginners Guide tutorial and our regular Emulation feature.

AFCD18 is another repository of hard drive installers for your favourite games including:
Krusty's Fun House
James Pond
Lotus Turbo Challenge 3



Continued ➡



You wouldn't know that summer's a slack time for computing judging by how full our CD is this month. Not only do we have a splendid quantity of reader contributions (about 120Mb), we've got some great games and games utilities for you (more than 25Mb) and heaps and heaps of the latest utilities, programs and tools (over 125Mb worth). The way the CD is laid out is always being subtly adjusted to make it easier than ever for you to use. Last month we introduced the groovy *AFCDFind* tool which should make it oh-so-simple for you to find anything you're looking for. This month, the adjustment's a bit simpler – we decided that since the Look_here_1st! drawer should be where you look first we'd make sure it appears first in a directory lister if you use *DOpus* or the like. Not only that, but *AFCDFind* ensures that we can be consistent in placing the programs we put on the CD. All in all, the *Amiga Format* CD is rapidly becoming the easiest CD to use and most of the thanks has to go to you for all the suggestions you give us. Cheers!

SPOTLIGHT ON A HANDY TOOL!

KINGCON

If you don't use the shell, you might think you can stop reading here, but you can't. So there. *KingCon* is of most benefit to those people who rarely use the Shell. When installed it replaces Commodore's standard shell window with a much improved one that allows scrolling back through your sitting, filename completion and drag and drop functionality. Don't you just hate it when mags and docs tell you that you have to open a shell window and type in commands? *KingCon* helps with that. If you want to go to a particular directory and can't be bothered typing "cd work:", "cd stuff", "cd whatever..." all night long, *KingCon* allows you to simply drag the icon for the directory you want to go to into the shell window and hit return. This'll put you in exactly the right place, and if you can't remember the name of that file, just hit tab and it'll either complete the name for you automagically, or bring up a list for you to choose from. This is a great bit of software – my only disappointment is that it isn't included in the Amiga's Kickstart ROM so that you can have it when you boot with no startup. Still maybe in Kickstart 3.2, eh?



Filename completion is just one of *KingCon*'s many talents.

IN LOOK HERE 1ST!

AFCD18 sees the demise of the CD-based Reader Ads. Now that the section is firmly established in the magazine

there seems little point continuing it on the CD. This means that sending in your ads as AmigaGuide files is actually counterproductive since it means that we have to take them apart from the text they contain.

However, the Amiga Angels database is getting larger all the time and this will always have pride of place on our CD (we're looking for a nicer icon for it by the way). If you wish to update your details on this list, or you want to add your name to the Angels already there, contact me. Send a letter addressed to Amiga Angels at the normal *AF* address or email me (bvost@futurenet.co.uk) making sure your subject is "Amiga Angels".

NETBSD

Owing to popular demand we've put a complete install of *NetBSD* on this month's disc so you should never need to download all 55Mb of it. Everything you need is here, but be warned *NetBSD* is not for the faint-hearted or those that don't need Unix access. You won't find any icons within this drawer since everything is designed to be used with a file manager or within the shell. There's a handy installation guide in two places on the CD this month – an install document inside the drawer and a web page devoted to the topic available through any of the browsers on the CD. These are written by Chris Livermore, the author of our new *NetBSD* tutorial starting next month. Rest assured that we'll have all the files Chris refers to on our CD too, starting with a complete installation of *X-Windows* next month.



NEMAC IV: Now even faster if you have a *Picasso96* graphics card.

NEMAC IV FOR P96

If you're lucky enough to have a copy of the superb *NEMAC IV* and a graphics card using *Picasso96*, you'll be pleased to see a version specifically for *Picasso96* supporting cards in AFCD18:-ScreenPlay-/Commercial/Nemacp96. A version of the game designed just for Picasso96 means that the screen redraw function can be optimised for this software resulting in a much faster screen update.

Continued overleaf ➡

Reader Prizes

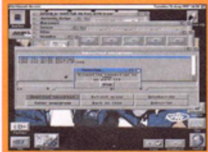
We had a hard time picking out the best reader contribution this month, but we finally settled on Norman Crossfield for his superb *Monkey Island*-style game. Congratulations Norman, your fifty quid should be on the way soon.

At your fingertips

Shadow of the Beast 3
Walker
We also have a nice collection of *Worms DC* levels and *XTR* tracks.

Seriously_Amiga/shareware/CD-ROM contains a complete index to Aminet CDs. It's laid out like a normal Aminet index, but instead of the "weeks" field, it has what number CD a program is on. As such it should prove very handy for those who have a good collection of Aminet CDs but never bothered to get the Aminet Sets. But beware, the index file is nearly 4Mb in size.

If you fancy a different outlook on reading the news, why not give *NewsPro* a go in the Comms/Other drawer? It's a Usenet newsreader that doesn't rely on MUI or a console interface to give it its look and it seems quite thorough.



Don't bother your dad when he's reading the news!

Graphics card owners awake! We have new versions of the brilliant *CyberQT* and *CyberAVI* in our GFXCard drawer. They fix several bugs and implement new encodings including JPEG compression for Quicktime movies. However, you do need a very, very fast machine for this to be worthwhile.

Postscript fans should have some fun with the newest version of *Ghostscript* (v5.01) which can be found in the Graphics drawer. It's a port of a Postscript interpreter that lets you view PostScript files on screen and even output them to any printer (ie, one that isn't PostScript compatible).

If you have to deal with Macs and/or PCs at work like we do

Continued ➡

Picture Manager Pro



The complex but powerful interface for *PMPro* hides handy functions like this pop-up menu.

This package is a useful tool for ensuring that the pictures on your hard drive (or on a CD) are available to you instantly and can be loaded into your favourite editor – *Personal Paint*, for instance, or can be viewed full screen. The program's got full online help, even in this demo version, and relies on the wonderful *Superview* libraries to work – if you haven't already installed them, then you'll need to install *Picture Manager Pro Demo* before you can play around with it. As standard, *PMPro* can search through sub-directories looking for picture files and will almost certainly understand any file format it's pointed at because of the *Superview's* wide range of supported picture file formats.

The demo version that we have on the CD is ready to run, if you've already installed the *Superview* libraries, but has the following limitations:

- **The tools MultiConvert and PhotoView are not included**
- **All functions which expand a catalogue by more than one file (directory scanning, multifile selection, scanning LhA-archives and reading the content of the logfile) are only possible in the full version**
- **Automatic conversion of pictures (function: marked-convert) is not possible.**

You can find *PMPro* in the AFCD18:-Seriously_Amiga-/Commercial/PicManager/ directory

At your fingertips

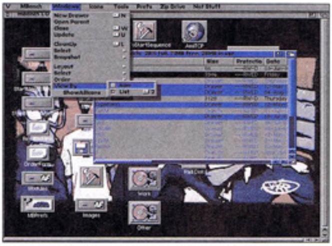
and you want to transfer text files between them, you'll notice that moving plain ASCII text around gives odd results on the different machines. Accents and odd characters get lost, returns go missing, etc. *FileConv* in the Misc drawer should help. It promises to keep all your text files sacred as they go across to the Mac or PC, restoring accents and carriage returns. I'm sure we'll find it handy!

General MIDI and MPEGA player GUIs are all the rage this month. We have several of each in our Sound drawer this month, so if music is the bag you're into, have fun with these. If you prefer music with more of an Amigan bias then the *Superplay* libraries should help. They're a set of libraires, much like *Superview* and written by the same author Andreas Kleinert, which let you convert between module and sample formats and are intended for seamless use with any supporting package.

Don't say we never listen to you! A reader rang us up requesting more *Blitz Basic* stuff on our CD, so we went out and scoured Aminet for anything Blitz-related and came up with all the stuff you'll find in Programming/BlitzStuff. There's source code, add-on libraries, digests from the mailing list and more. There's a few other bits in the Programming directory including two MUI custom classes – one new, the other an updated version of the Busy class that comes with MUI.

Those of you worried about being affected by viruses should be pleased to find new versions of two popular virus checkers on this month's CD in the Virus directory: *XTruder* and *VT*.

If you want a really quick and easy file manager that has no restrictions, take a look at *DiskMaster* in the Workbench drawer. It used to be a commercial product but now it's available free for you on our Amiga Format CD.



Workbench replacement a-go-go *MBench* gives you *DOpus*-style listers when you view files by name.

MBENCH

Workbench replacements seem to be where it's at these days. Getting rid of Workbench's slow and inconsistent interface and bunging in something new, shiny and multitasking seems to be the order of the day. For those made of money, *Directory Opus* is the way to go, but for those on a bit more of a budget, why not take a gander at *MBench*?

MBench is a fully multitasking replacement for Workbench. It integrates commodities, new menus and a much nicer way of representing files into one package designed to be easy to use (and if you do get confused, it comes with online help – unlike Workbench). It also has all the things you'd expect such as copy progress bars, confirmation requestors and more. Although this is still a beta version its author, Mark Hewitt certainly deserves the £10 registration fee.



Fully textured *Imagine* objects for you all courtesy of Andy Kinsella.

READER WARRANT

Every reader submission to the *AFCD* must have a reader warrant attached to the accompanying AF_Readme file. You can type it in off this page or take it from the various locations it is stored in on the CD (Look_here_1st!, ReaderStuff etc). A last reminder: this text must be in your AF_ReadMe, or your submission won't go on the CD – it's Future policy.

In respect of all material which forms my reader contribution to Future Publishing's *Amiga Format* I hereby warrant that:-
(1) the material is original and does not infringe any other material or rights;
(2) the material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
(3) that there are no legal claims against the material provided;
(4) that I have full power and authority to provide this material to Future Publishing.

DISC NOT WORKING?

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READERSTUFF

This month we've had some brilliant entries. Tony Parr's taken my criticism of his icons on board (from *AFCD14*) and has come up with some blinders. His icons are best suited to *Toolmanager* docks or *DOpus* button banks where they can be made into blocks of four – you'll understand when you see them.



Nice icons – you'll find they're even better for *Toolmanager* docks.

Meanwhile, Andy Kinsella has been busy building *Imagine* objects for you to play with while Dave Roberts has been pulling them apart with his *Imagine Object* detail viewer thingy. Timm Rutland has been busy making new front ends for *AFCD15* and 16, and Tim Quigley has come up with a nice Amiga-oriented fruit machine.

If you are a *DOpus 5.** user, don't forget to take a butcher's at Richard Lane's *Magnum Opus* – a collection of filetypes, scripts and more. Let's not forget Mark Tebbutt either. He's sent in a "bunch of stuff he's done over the last couple of months" including a print server inspired by – spit, spit – Windows. Seriously though, it is actually pretty good and speeds up printer output no end.

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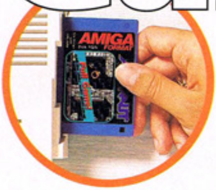
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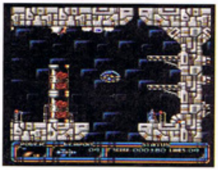
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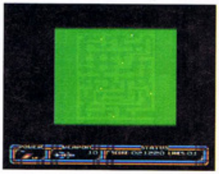


David Taylor introduces this month's exclusive Coverdisk game. Aquanaut is a must for shoot-em-up fans.



Beware the bullet-spitting triffids and watch out for that fish – he's got a few tricks up his gills too!

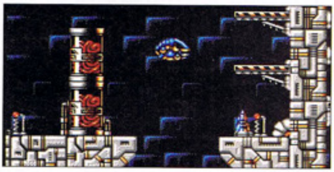




Those rockets (top) shoot when you get too close. One of the power-up canisters shows you a map (bottom) revealing where the other power generators are.

Full Game

Aquanaut



Atlantic HQ are in a predicament. Their top secret underwater base has reportedly been taken over by unknown terrorists. Understandably, they are upset and that's where you come in because it's your job to discover what's going on.

Your hi-tech submarine comes equipped with state of the art firepower and you're going to need it. Not only are there creatures that will attack you as you try and get in, but the built-in defence mechanisms of the base are intact and they are now targeting you as an enemy.

You're not buying into this official line about terrorists either. You know that during the construction of the base an area known as the Quadrant – an unnatural and unexplained rock formation – was destroyed. Attempts to map the area have only led to the loss of crews and ships. Whatever's out there is no terrorist group and it's certainly not here to play friendly.

As the pilot of the Shark submersible, you have several weapons at your disposal. Controlled by the joystick, you can move and fire your standard lasers by pressing the fire



Level three (top) sees a new range of enemies and obstacles – that's if you get past the end of level guardian (left) on level two.

button. If you have auto fire you can use this to send out a stream of pulses. You've no need to worry about power or ammunition with the standard laser as you have an infinite supply. The pulse lasers can be powered up three times by collecting the icons which are available. You will find the power-up icons hidden in canisters around the level – you can open them up by shooting at them.

SPECIAL WEAPONS

In addition to the standard pulse laser, you have access to four special weapons which are described in more detail in the boxout. The type of weapon you have selected is shown in the bottom bar and to swap between them you need to use the Function keys 1-4. To fire a special weapon you need to hold down your fire button until the two lines in the weapon section meet. When you then release the fire button, the special weapon will be fired. If you have auto-fire turned on, you will need to de-activate it in order to use the special weapon. Ammunition with these weapons is sparse and you start with a limited supply. You can collect more from the canisters around the levels but you still need to use them sparingly.

WEAPONS

F1: MISSILES
This fires two diverging missiles which shoot forwards until they hit something and then explode.
F2: BLASTER
A powerful plasma bolt which will rip straight through anything destructible. Use this wisely.
F3: REBOUNDERS
Four rebounding bombs which fire out from your sides at 45 degree angles. They bounce off walls and rip through some destructible items sometimes continuing to bounce around and take out further obstacles. Eventually they will explode. This can be used very effectively.
F4: DEPTH CHARGES
These are slowly released from your undercarriage. When they drop, they will fall until they hit something and then explode sending up a set of bombs that will destroy anything they hit. Do not aim to hit the thing you are trying to destroy as it will not be harmed by the impact of the depth charge. If you can get the charge to explode near it or beneath it then the bombs will fly up and out and hit your target that way.

OBSTACLES

When you navigate your way around you will come across a number of obstacles built in to defend the base. On the first level, these fall into three categories.

SPIKED BALLS

The large ones, which look like mines need to be avoided, but you can shoot them with your standard laser. The small ones do not harm your ship but they do often bar your way. In order to progress through the level you need to destroy them using a special weapon – the rebounder is ideal for this.

ROCKETS

These are proximity activated and shoot when you approach them. Beware because some of them will re-appear when you approach the same site again.

POWER SHIELDS

These stop you from accessing other areas. Do not try and fly through, instead you need to find the power generator for the shield and destroy it.

You will come across lots of barriers and if you find yourself with nowhere to go it is probably because you have to shoot your way through a wall. If this is the case you need the special weapons.

As you progress deeper into the levels you will see that what starts out as a sparsely populated game, quickly becomes one heavy with enemies. Try not to fly around too fast, nor aim straight for the exit, because you will miss out on places and not collect all the power-ups and ammunition.

When you do make it to the end of a level, the wide open space should have your gaming senses screaming, because it means that the end of level guardian is on its way. When it appears it will fire and then try and rush you. Get caught by it at your peril because it is certain to cost you a life. As with the rest of the game you can take limited hits before losing a life, but each hit drains your energy level and should you lose a life you will lose your power-ups. To kill the end of level guardian you need to target specific parts of it at a time. For example the lobster type creature at the end of level one fires from its claws. Shoot these first with your standard laser or, if you can spare some, this is a good time to use the special missiles.

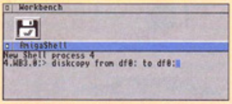
We hope these tips have prepared you for your mission. Remember, you will need all your skill to succeed so good luck!

BACKING UP YOUR COVERDISK

Copying your Coverdisk is really very simple. Just follow the stages below...

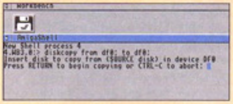


1 Boot up with your Workbench disk and find the Shell icon, in your system drawer. Double-click on this to go into the Shell.

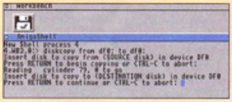


2 Type in the following line (with a zero, not the letter O), taking care to put the spaces in the correct places:

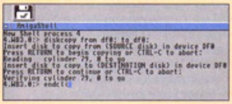
DISKCOPY FROM DF0: TO DF0:



3 When asked for the Source disk, insert your write-protected Coverdisk and press Return. All of the info on this disk will then be copied from the disk into memory.



4 Once your Amiga has read the info, it will ask for the Destination disk. Insert it and press Return. All information on this disk will be destroyed.



5 On an unexpanded machine, the Amiga may ask for the source disk again, because it copies in chunks. Finally, type endcli to close down the Shell.

DISK NOT WORKING?

We take every care to test the Coverdisk software, but Future Publishing cannot accept any responsibility for any damage occurring during its use. If your disk is faulty, send it back, with 2x26p stamps and an SAE to:

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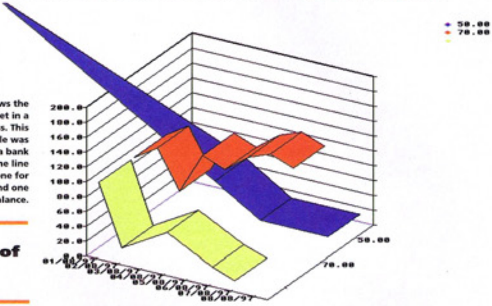
Serious AMIGA FORMAT disk





Ideal for all your business and domestic needs, David Taylor introduces a great new Shareware spreadsheet program.

Getting *StarAm Plan* started is simple. You just need to load up Workbench and then insert the Coverdisk. The program has been archived, and you do need to have the Commodore Installer on your system. Go to the drawer and start the Installieren icon (that's German for install – don't worry everything else is in English). Install the program to a new drawer and then you can get started. All of the other programs this month can be installed directly from the Coverdisk.



The chart shows the worksheet in a simple process. This easy example was based on a bank account with one line for deposits, one for withdrawals and one for the balance.

"StarAm Plan can handle lots of variables and calculations..."

StarAm Plan

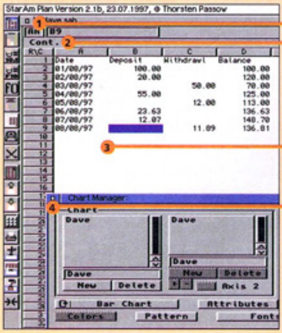
Once the program has started, you'll see a worksheet with the familiar cellular structure. There are four different types of entry you can make into a cell. Firstly, you can enter a decimal number, for example, 13.4. This is a static number on which calculations can be made in other cells and is ideal for sales figures or income.

The second type of entry is dates and times. These have to be entered in the dd/mm/yyyy and hh:mm:ss format and it is important that you note exactly how this works because if you don't enter a date fully, you won't be entering the correct date. The system works using full years, so 11/12/97 means 11/12/0097 and the calendar starts at the beginning of computer time: 01/01/1978.

The formula – the third type of entry – can be used to make different

ANNOTATION OF INTERFACE

- Open Worksheet Manager
- Open Chart Manager
- Open Variables Manager
- Open Names Manager
- Open Function Manager
- Open Format Manager
- Open Tab Format Manager
- Open Character
- Selection
- Open Edit Settings
- Create new worksheet
- Open existing worksheet
- Save worksheet
- Recalculate worksheet
- Print
- Clear Cell
- Copy cell
- Insert/Overwrite



1: The current cell number

2: The cell contents – formulae shown and entered here

3: Worksheet – all data displayed here

4: Chart Manager – many of the options have their own managers. This is one of the powerful ones for controlling the graphic representations

dates appear in cells. For example, if you set a cell to the date type and then enter +10, it will display 11/1/78. But if you start a formula by pressing the Escape key (a rectangle will appear in the Input box) you can make changes to cells based on dates. For example, Escape A1+10 placed in the A3 cell will show a date ten days after that placed in the A1 box. If you want to set up a schedule, or a set of payments in installments, then this allows you to change all the dates just by entering a new start date.

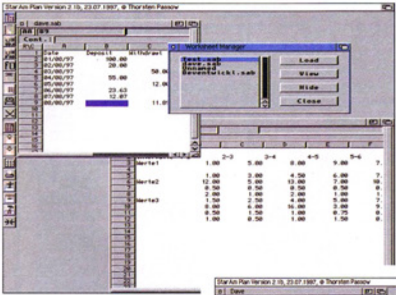
"...you will probably want to try out the programs' formidable charting capabilities."

The last type of entry covers everything else – text. If something doesn't fit into one of the previous categories then the input data will be shown as text.

As you work you will notice that the figures are not automatically re-calculated when you change a cell's contents. To re-calculate press Ctrl-=.

If you want a sequential formula, running down or across a set of cells, then just type the formula in the first cell and hit return. Highlight the set of cells with the mouse by clicking and dragging, and include the cell which contains the original formula. Now select the Edit/Duplicate menu – choosing Right or Down. The formula will be copied and adjusted for the cells. This is great for making rolling calculations.

StarAm Plan can handle lots of variables and calculations and has some complex functions to handle them which are dealt with in the English QuickStart manual that is included.



You can have more than one worksheet open at once. To help you manage them, and open new ones, there is also a special manager window.

ADDITIONAL SOFTWARE

● LibBase 3

This is a utility for all those who want to fiddle around with the unseen bits of the Amiga. When you load it up you will see that there are five sections: Libraries, Devices, Resources, Ports and Tasks.



The LibBase 3 screen is easy to understand and gives you details of your Amiga's memory usage.

If you click on an item, all of its details are shown in the box below. This gives you the chance to see exactly what is going on so, if you decide you don't need certain things to load when you boot your Amiga, you can remove them.

● MoreTools

This is another small utility that adds in program launching capabilities to your Tools menu on Workbench. It does so using a small text file that details the items and the programs. To get you started there is an example file that many people will find quite useful in itself. If you want this program run every time you start up, you need to copy it into your WBStartup drawer. The Icon Information window shows where it will look for the MTData file, but by default this is S:.

● MUILoad

This is a small and simple CLI program that you can copy to your C: directory. If you start it in your startup-sequence it will load the MUI library into RAM. This doesn't noticeably increase the booting time, but it will mean that your first MUI program will load nearly 50% quicker.

● Tutorial Code

You will find the ARexx code from this month's tutorial by Paul Overaa here. Turn to page 92 to read it now.

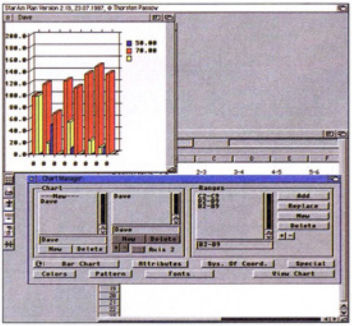
GET CHARTING

When you have built up a worksheet you will probably want to try out the programs' formidable charting capabilities. It's tempting to go straight ahead and make a chart but if you do this you will probably end up with something that doesn't make sense. Instead, open the Chart Manager and start a new Chart, giving it an appropriate name. On the right of the window select the range of cells that you want represented by adding new ranges, and editing each range as you add it to the one you want. When you have the ranges entered, you need to choose the type of chart that you are making – Pie, Curve and Bar are all available. You also need to choose the chart's parameters.

Click on the Attributes button and check the Rows box. Without this clicked, each of the cells will simply be shown in order on the chart, which is no use if you want your graph to show how the cells fluctuate. With Rows checked, you can see the flow showing each range in one set.

When you come to save your work you may find that you get an error message. To stop this you need to go to the Environment/Disk Operation menu and select the No option for XPK and then OK the choice. You can change other things in this requestor, including the default directories.

Please note that this piece of software, although fully functional, is Shareware. If you use it, you must pay DM30 (around £11) to the author, Thorsten Passow, Senator-Theil- Strasse 113, D-28279, Bremen, Germany. Without registrations development won't continue and you won't see a fully localised manual, so do support this great piece of software.



The Chart Manager allows you to set up all the parameters of a chart including the ranges to be displayed and the type of chart. If you don't have the chart full screen, then you can change anything, and redraw the chart, without having to close it.

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Next Month

It's list time again

What do you want for Christmas? If you're short of ideas, then November's *Amiga Format* will give you the lowdown on what to go for and what to avoid. We'll offer you the best reviews of:

Fusion – Jim Drew's new Mac emulation and more
AWeb II v3 – Silly name, but what's the browser like?
Scandoubler – Plug a decent monitor into your Amiga
MasterISO v2 – CD burning, but easier
Aladdin 4D – A blast from the past or Lightwave-beater?
CD-RW drives – The new wave of rewritable media
DrawStudio 2 – The best vector art package gets better

and previews of:

Street Racer – Is this the Amiga's best ever racing game?
OnEscapee – Flashback, only more so

There are new tutorials on **NetBSD** and **MUI**, a work-in-progress report on **Foundation**, a CD packed with new demos including **Hidden Truth**, **OnEscapee** and Foundation, the very latest Shareware and all your contributions to the Gallery and Readers Games, plus your views aired in Mailbag, your problems solved in Workbench, all the most up-to-date news and more, more, more

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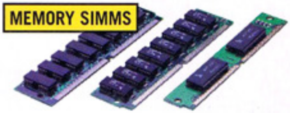
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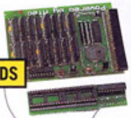
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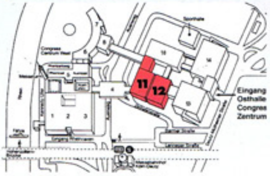


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